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THE LAND OF THE NEW GUINEA PYGMIES

AN ACCOUNT OF THE STORY OF A PIONEER JOURNEY
OF EXPLORATION INTO THE HEART OF
NEW GUINEA

BY

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With 48 Illustrations & a Map

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TO
SIR CLEMENTS R. MARKHAM, K.C.B., D.Sc., F.R.S., F.S.A.
(LATE PRESIDENT OF THE ROYAL GEOGRAPHICAL SOCIETY)

TO WHOSE EXPLORATIONS AND RESEARCH WE ARE SO
HEAVILY INDEBTED ; TO WHOM EXPLORERS
AND GEOGRAPHERS ARE UNDER
SO GREAT AN OBLIGATION

P R E F A C E

MY best thanks are due to H. S. Harrison, Esq., D.Sc., F.R.A.I., for his monograph on the Pygmies which I have ventured to introduce into this book as Chapter XIX. Not only is it a valuable addition to the scientific results of the expedition, but it suggests a line of thought which may be followed with advantage by all those who are interested in the origin of the living races of man. References and ultra-scientific terms have been omitted in order to bring before the general reader the trend of present thought on this subject.

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THE LAND OF THE NEW GUINEA PYGMIES

CHAPTER I

Life in the sixteenth century—Gallant pioneers—A Portuguese explorer—
Discovery of New Guinea—Dutch enterprise—Famous travellers—
Native hostility—European annexation—The Dutch section—An
unknown country

DURING the sixteenth century Europe was in a state of perpetual strife.

Out of a chaos of religious conflicts, social strife, and prolonged war, emerged the Renaissance. Its advent was heralded alike by the outspoken, uncompromising utterances of Luther, and the polished, cynical essays of Erasmus. It was necessary to every country, every profession, every trade. To the masses life in Europe had become intolerable. Religion, which then played the most important part in men's lives, had passed imperceptibly from the sublime to the ridiculous, and thence to the grotesque. Vice in every form had reached its culminating point in the excesses of the Borgias. Taste in art and literature was degenerate and depraved to a degree. War had satiated the highest in the land with conquest and plunder, and sickened the lowest with misery and destitution.

Thus it came about that men, bolder than their

LIFE IN THE SIXTEENTH CENTURY

fellows, disgusted with life in Europe, went forth to find new homes across the Atlantic, limitless to them and uncharted, beset with unknown perils.

It is to the intolerable state of life in Europe before the Renaissance that we owe the discovery of the New World. With the progress which accompanied the Reformation, trade helped to carry forward the work of populating new countries and the fashioning of the map of our world of to-day.

Of all countries, Spain and Portugal perhaps derived the greatest advantage from the Renaissance. It is to them, therefore, that we chiefly owe the discovery of countries across the seas. Spanish names are to be found on many a promontory and inlet of the New World—everlasting monuments to her dauntless seamen. In the Americas these pioneers were soon followed by British adventurers and merchants. The names of Grenville and Hawkins, Raleigh and Drake, and of many others whose gallant deeds have made history, rise before us as we turn over the pages of the past. Where they cut their way through tangled jungle, or waded, staggering in the slime of some pestilential marsh, or fought desperately with their backs to their beached ships against tribes to whom mercy was unknown, now stand teeming cities, with their busy streets and crowded markets, or prosperous farmsteads in the midst of their shady pastures and fields of corn. Their work has been continued and completed by successive generations, toiling with axe and plough as the pioneers of future Empire.

And yet there remains one country, the greater part of which is as unchanged to-day as when the first Portuguese seaman sighted it wellnigh four centuries

A PORTUGUESE EXPLORER

ago. We can imagine the crew, weary with their year-long voyage, weak probably from scurvy, straining their eyes landward as the ship, foul and encrusted, slowly approached the shore, and with what excitement and wonder they surveyed the tangled stretches of jungle, mist-veiled, slashed here and there with the gleam of water, backed by mountains unknown and mysterious, and seamed with dark and gloomy gorges. For such is New Guinea to-day.

It was Jorge de Meneses, sent from Malacca to command the Portuguese at the Spice Islands, who (it is believed) in 1527 was the first to land in New Guinea. In this remote corner of the world existed the most deadly rivalry between Spain and Portugal. Early in the sixteenth century a Papal Bull divided the entire East Indies between the two countries. The dividing-line was a meridian drawn in the Atlantic, then arrived at by the roughest of dead reckoning, which unfortunately ran close to the valuable Moluccas, the Spice Islands, and constant strife therefore arose as to its exact position. The Spaniards reached the Spice Islands by way of the Pacific; the Portuguese from India and Malacca. The immediate result of this rivalry was the discovery of New Guinea, lying directly in the route to the Moluccas. Meneses attempted a new route around the North of Borneo, and, landing at New Guinea, remained there several months without realising at all the importance or size of the island. The natives of the Moluccas called the inhabitants Papuans, on account of their woolly hair, and Meneses therefore called the island Papua. When the monsoon changed, he gladly sailed away to join his comrades at Tanati.

DISCOVERY OF NEW GUINEA

The next to touch on the shores of New Guinea was the Spaniard, Alvaro de Saavedra, who sailed across the Pacific from South America, where Pizarro was fighting desperately to carry out his conquest of Peru.

In 1529 Charles V sold the Spanish claims on the Spice Islands to the Crown of Portugal. Eight years later, in 1537, Grijalva and Alverado were despatched from Mexico by Hernan Cortes. They were wrecked on the north coast, where Grijalva was murdered by his mutinous crew, who were themselves taken prisoners by the natives. The castaways were finally released by the Portuguese and taken to the Moluccas.

In 1545 the island received the name by which we know it to-day. Ortis de Retes, thinking himself the discoverer, named it New Guinea, on account of the resemblance the inhabitants bore to those of the West Coast of Africa. Only the British section of the island now retains the more ancient designation of Papua. So far only the northern coast had been visited, but in 1606 Louis Vaiz de Torres landed in Milne Bay on the southern shore. He made extensive observations, mapped a certain portion of the coast, and discovered the straits between New Guinea and Australia which now bear his name. All records, however, of his discovery were lost till 1762, when they were found by Dalrymple in the archives of Manilla, though his map was not brought to light till 1878. Any attempt, however, to colonise New Guinea, such as was taking place in the Americas, invariably met with disaster.

Early in the seventeenth century Holland, usurping the place of the declining Portuguese Empire, appeared upon the scene. Captain Willem Jansz of the yacht

DUTCH ENTERPRISE

Dyske was the first Dutchman to land. The inhabitants, however, proved hostile, and attacked and killed eleven of his thirty sailors. Another attempt under Schouten and Le Maine in 1616 likewise failed, many of the crew being killed and wounded. Janz Carstensz, travelling eastwards, passed the island in 1623. He was the first to place on record the existence of a mountain range possessing snowfields and glaciers. To perpetuate this discovery, his name has been given to the highest visible snow-peak, and it is to this district that the travels recounted in this book mainly refer. In 1642 came the famous navigator Abel Janes Tasman. Little more was heard of the island till the year 1700, when William Dampier, despatched by George III, sailed round the eastern end and discovered the channel separating the island of New Britain from that of New Guinea.

In 1714 the island was nominally ceded to the Dutch by the Sultan of Tidore, this being recognised in London in 1824.

For fifty years no traveller approached the coast, and it was not until the arrival of the Englishman, Captain Carteret, in 1767, that any further discoveries of importance were made in this part of the world. The following year Bougainville touched these shores. In 1770 Captain Cook visited the island, in 1771 Sonneret, and the East India Company in 1775. In 1784 England obtained the right of free trade. In 1791 arrived MacCluer and Edwards, 1792 Captains Bligh and Portlock, 1793 D'Entrecasteau, and in the same year Mate Dell took possession of some islands in Torres Straits for England, and Captain Hayes of the East India Company, in addition to other discoveries,

FAMOUS TRAVELLERS

established a station on the north coast; but the natives, as usual resenting any attempt to occupy the country, forced him to retire a few years later.

From this period it would be tedious and almost impossible to give a complete list of all the famous travellers who have contributed something to the world's knowledge of the coast of New Guinea and neighbouring islands. It may, however, be interesting to mention a few of the most renowned.

Lieutenant MacCluer surveyed large portions of the western coast in 1790, and was finally lost at sea in 1795. In 1826 Kolff arrived; in 1827 Admiral D'Urville completed a valuable survey of the north coast. Lieutenant Yule landed in 1846 and took possession of a portion of the south-east coast in the name of Great Britain. The largest river was discovered in 1845 by the gunboat *Fly*, from which it takes its name. In 1858 came Wallace, and thirteen years later Teysmann. Admiral Moresby landed in 1875, followed by D'Albertis, Macgregor, Maclay and others, amongst whom must not be forgotten that famous missionary the Rev. James Chalmers, who was afterwards so treacherously murdered on the coast. The resentment of the natives to any attempt at occupation, and their implacable hostility, resulted in many brutal murders and many complete disasters. In 1890 a British steam yacht was wrecked to the west of the Mimika River, and the entire crew killed and eaten. The disaster to the *Pell* occurred in 1900, a similar fate befalling the officers and crew near the present position of the Dutch settlement of Merauké.

On the submission of the Sultan of Tidore to the Dutch in 1714, the latter, as suzerain power, acquired

EUROPEAN ANNEXATION

all possessions of the former ruler and claimed the territory from the most westerly point eastwards to the 141st meridian. This boundary, with slight modifications, was accepted by the Powers in 1893, but it was not until 1899 that Holland took over direct control of her section.

By Imperial Letters Patent issued to the German New Guinea Company, Germany laid claim to and annexed the north-eastern portion of the island in 1884.

The south-western section was formally taken over by Mr. Chester by order of the Premier of Queensland in 1883. This act was not confirmed by the Home Government, but the territory was nevertheless annexed to the British Crown in the following year, and the boundary between German and British territory fixed in 1885. To Germany went the newly named Bismarck Archipelago.

Sufficient has been said to explain New Guinea's meagre history and how its land has been parcelled out between the three European nations. Of the British section of Papua much is known; it is partially civilised, and a considerable portion surveyed. Neither the German nor the Dutch sections are nearly so far advanced, but Holland of late years has displayed great zeal in the exploration of her half of the island, which, in addition to being twice as extensive, offers more serious obstacles to successful exploration than either of the other two.

During the last two or three years eight expeditions have penetrated into the Dutch section of the island from all sides, of which the most important are: the Mamberano River Expedition under Kapt. A. Herderschee, October 1909 to May 1910; Humboldt's Bay Boundary

THE DUTCH SECTION

Commission under F. J. P. Sachse, November 1909 ; the Fak-Fak Expedition under Kapt. Kock ; the Utaqua Expedition under Kapt. J. Van der Bie and Lieutenant Postema, March to December 1910 ; the Island River Expedition under Herr A. Schaeffer and Kapt. Van der Ven ; the Digul River Expedition, and the three Expeditions under the well-known Dr. Lorentsz, in the last of which he reached his goal and penetrated to the Wilhelmina peaks. He was thus the first European to tread the snows of New Guinea.

New Guinea as a whole still offers greater opportunities for the explorer, collector and anthropologist, than any other portion of the globe.

During the latter half of the last century so many vast areas of the world's surface yielded up their secrets before the advance of civilisation that comparatively little pioneer exploration now remains to be accomplished. New Guinea still resists the invader, and though its hidden secrets are one by one being brought to light, yet many years must elapse before sufficient knowledge of the country can be accumulated even to construct a sketch map of its entire surface, to say nothing of a complete scientific examination of its mammals, birds, reptiles, insects and plants, or a study of the many savage tribes which inhabit the highlands and the plains. The chief reasons for its still being an almost *terra incognita* are to be found in its remote situation from the ancient civilised world ; its impenetrable forests ; its rugged ranges and endless swamps ; its rains and fevers, and lastly its hostile and treacherous inhabitants, all of which obstacles have frequently proved insurmountable to the trader and traveller.

It can be easily understood, therefore, why this

AN UNKNOWN COUNTRY

country was selected as a virgin land in which to work when the British Ornithologists' Union desired to commemorate their jubilee by sending an expedition into a country hitherto unexplored. The object of the British Expedition, the adventures of which I shall relate, was to explore that unknown country to the east of Fak-Fak, and to the west of Dr. Lorentz's Nord River in the vicinity of the snowfields and glaciers of Carstenz Peak. Little or nothing was known of this great tract of country except what had been learnt by a flying visit paid to the Mimika and Utaqua Rivers a few years before. It had remained a land of mystery, impenetrable as when Carstenz had first seen it three hundred years before.

CHAPTER II

Organising an expedition—Learning by experience—Forming the party—
The survey staff—Transport arrangements—The food problem—Il-
l-chosen supplies—En route—Dutch courtesy—Enlarging the staff—
The line of advance—Java—Duo east—A curious prison régime—Dobo
—The island of New Guinea—The Mimika district—The coast-line

TO the uninitiated the work involved in an expedition might appear to commence on the day arranged for the start, but this is by no means the case. The organisation of an expedition requires the ability of a thorough business man, combined with an intimate knowledge of the special requirements demanded by the nature of the country to be traversed. The physical peculiarities of the country to be entered, its climate, inhabitants, local supplies and means of transport, as learnt by personal experience or from information gathered from the reports of former travellers, are of the first consideration. Such knowledge can be gained only by months of careful study and thorough inquiry, and is of the utmost importance, for it must not be forgotten that one weak link may endanger the whole enterprise, and that for each country in the world different arrangements are necessary.

The equipment down to the minutest detail, the quality and quantity of the transport, the favourable seasons of the year, the available funds, one's companions, together with a host of other points, all require the most careful consideration and thought.

ORGANISING AN EXPEDITION

Perseverance and determination will surmount most obstacles, but can never make up for bad organisation.

Even with the exercise of the greatest forethought and most careful preparation the plan of action and the arrangements made must be of a sufficiently elastic character to allow of alteration if unforeseen and insuperable difficulties should occur, so as to avoid the dislocation of the whole organisation.

A pioneer expedition into an unknown land must necessarily undergo greater hardships and encounter more unexpected difficulties than one which can profit by the lessons of another, and though the Mimika district was a *terra incognita* until the landing of our party, one is compelled to acknowledge that much might have been gained by a more careful study and proper appreciation of the trials and difficulties experienced by travellers in other parts of the country.

Whether the scientific results would have been of greater value is another question, but it cannot be denied that much life, time, and money would have been saved. Here, however, there were compensations, for, had the correct river been selected as the line of advance, it may be assumed that we should have reached the snows of the central range; but, on the other hand, we should not have made the valuable discovery of the existence of the pygmies. That careful organiser, Dr. Lorentsz, required three well-equipped expeditions, two on the same river, carried out in successive years, to reach Mount Juliana, and so it may be hoped that our next attempt, profiting by the lessons taught us in the present instance, may solve some of the problems that we left untouched.

A committee, composed of members of the Orni-

FORMING THE PARTY

thologists' Union, was formed, in whose hands the entire arrangements were placed, and whose first act was to select as leader to the party Mr. Walter Goodfellow, a well-known and experienced collector. Shortly afterwards followed the appointments of Mr. W. Stalker and Mr. G. C. Shortridge, who were to be responsible for the birds, mammals, and reptiles captured. The former had had many years' experience in the East, particularly in Northern Australia and Papua. The latter was known throughout South Africa, Australia, and the East Indian Islands, from whence he had brought many valuable collections to the British and other museums. Mr. A. F. R. Wollaston, medical officer, entomologist, and botanist to the late Ruwanzori Expedition, and author of that excellent book of travel, *From Ruwanzori to the Congo*, was appointed to the same posts on this present expedition. Thus composed, the personnel and the plans would have satisfied the originators of the scheme, but as is so often the case with expeditions sent into unknown lands, subscriptions did not come in as freely as was anticipated, and conversely the scope of the work was extended. The interest of the Royal Geographical Society of London was invoked in that part of the work connected with exploration and survey, and with their usual generosity where geographical problems remain to be solved, they at once fell in with the proposal and liberally contributed to the funds. While in Tibet I had had some experience in the construction of maps, so I applied for the post of surveyor, and to my intense satisfaction obtained the appointment. My enthusiasm was slightly damped, however, when I learnt that there was to be no survey

THE SURVEY STAFF

staff, and that I had to do the work alone. When I remembered the heavy casualty lists of former expeditions in other parts of the country we were about to enter, and realised that if I were to fall ill the survey work would come to an abrupt end, any uneasiness on my part as to the result must be excused. The collectors were three in number, or four, if we include Mr. Wollaston, who was likewise capable of assisting in that work, while I, as surveyor, stood alone. After some delay the sanction of the committee was therefore obtained for an additional surveyor to be appointed, and here I was fortunate enough to obtain the services of one eminently suited to the work. Dr. E. Marshall, one of the three who had accompanied Sir E. Shackleton on his final advance to the South Pole, had but lately returned to England. On the Antarctic Expedition he had held the posts of medical officer and cartographer, and when the objects of the present expedition were explained to him he expressed his willingness to join as assistant surveyor and surgeon. The European staff was now complete.

Through the kindness of Sir Edward Grey and the British Minister at the Hague permission had been obtained from the Dutch Government for the expedition to land on the south coast of Dutch New Guinea on any date after January 1, 1910, together with a courteous offer of assistance from the authorities of the Netherlands India. The Dutch section of New Guinea had been chosen on account of the vast extent of the unknown areas, and the western half in particular, because of the proximity of the great central range of mountains to the coast, a district which was thought likely to contain unknown varieties of birds and

TRANSPORT ARRANGEMENTS

mammals. To reduce the area still further the Mimika district was selected for the disembarkation, as the Snow Peaks of Carstensz were reported to lie within a reasonable distance—*i.e.* about seventy to eighty miles to the north.

While the preliminary arrangements were being made in London, Shortridge was working in Borneo, from whence it was arranged that he should join the main party as it passed through Java; and that Stalker, who was likewise in the East, should set out at once and enlist one hundred carriers from the various islands scattered throughout the Archipelago. To avoid delay ten ex-military police Gurkhas from India were engaged for the twofold object of guarding the camps and, on account of their knowledge of jungle life and fondness for shooting, of collecting natural history specimens. These Gurkhas were enrolled at Darjeeling and sent to Singapore to await our arrival, but as it afterwards turned out they were not much used for the former purpose, as an escort of Javanese troops was supplied by the Dutch. The equipment and tinned food were brought from England, and the supplies for the coolies from Java and Amboina.

A suitable and plentiful supply of food for the whole force is naturally of the first importance. Owing to the dearth of local supplies in New Guinea, it was found necessary to import all provisions needed for the expedition. It is true that sago palms grow in the swamps, but Malays are not sago eaters, and, in addition, we wished to leave the low-lying ground as soon as possible and take to the mountains, where sago trees do not exist.

Throughout our stay in the country the numbers of

THE FOOD PROBLEM

men employed by the Dutch and British varied between one hundred and twenty and two hundred, whose rations were one and a quarter pounds of rice and a quarter of a pound of dried meat and fish, together with tea and salt. Thus it will be understood that owing to the uncertainty as to when fresh stores might be brought by the visiting ships, and the lack of local supplies, it was necessary to import and stock an immense quantity of provisions. The preservation of these, on account of the excessive humidity of the climate, caused much anxiety, particularly as the consignments of rice for the first half-year arrived in sacks, and were consequently spoilt by the first shower of rain. A noticeable improvement took place when the Dutch plan of packing the rice in sealed kerosene tins was adopted, but the work of closing the tins had to be performed with care, as the slightest defect in soldering let in the moisture with equally fatal results. From the same cause immense quantities of dried meat and fish were at times ruined, as old wooden kerosene cases were used to pack the food in, and being thus exposed to heat and rain, a few days were sufficient to turn the whole into a putrid mass. Coolies were continually employed in drying it, but with indifferent success.

The provisions selected for our own consumption were of so remarkable a description that I am almost tempted to reprint the list, but as this might produce unseemly merriment amongst those who were not forced to consume them, and also to show that I am not alone in my opinion as to their unsuitability, I will quote from Dr. Wollaston's report: "Some of our own stores were, to say the least, ill-chosen. It appeared that a large quantity of stores had been brought

ILL-CHOSEN SUPPLIES

from the Shackleton Expedition, which had returned from the Antarctic a few months before we left England. However suitable those provisions may have been for a Polar expedition, they were not the sort of thing one would have chosen for a journey in the tropics. For instance, large tins of 'bully-beef' are excellent in a cold climate, but when you open them near the Equator you find that they consist of pallid lumps of pink flesh swimming in a nasty gravy. Pea-soup and pea-flour, of which we had nearly four hundred pounds' weight, strike terror into the stoutest heart when the temperature is 86 degrees in the shade. Pickles are all very well in their way for those that like them, but one hundred and sixty bottles was more than a generous allowance. . . . The packing was almost as remarkable as the choice of the stores themselves; they were secured in strong packing-cases of large and variable size, fastened with bands of iron and an incredible number of nails, suitable enough to withstand the banging Polar storms, but not well adapted to their present purpose. The boxes were all too big for convenient transport, and as each one was filled with food of one kind only every box had to be opened at once and a selection made from them."

Let me add that besides "bully-beef" the principal articles of food were tinned salmon and fresh herrings. It will be understood that ringing the changes on the above for eight months not only palled on the appetite, but was likely so to lower the constitution as to render it unfit to withstand the hardships necessitated by a prolonged sojourn in jungle and swamp. Such necessities as sugar, candles, &c. were omitted amidst the luxuries mentioned above. At the end of eight months,

EN ROUTE

as a consequence of our representations as to the unsuitability of the supplies, an excellent store was sent out from England, well chosen and properly packed.

As the story of our travels proceeds, my readers will be able to form their own opinion as to the perfection, or otherwise, of the transport arrangements.

We left England on 27th October 1909, and reached Singapore three weeks later. Here we found the Gurkhas living in the Native Infantry Lines, feeling quite at home, but much ruffled in temper by being repeatedly taken for Japanese by the native population of this cosmopolitan port, who, to the Gurkhas' surprise, said that they had never heard of the existence of this hardy mountain race. On the 21st November we sailed in the Dutch packet for Batavia, the capital of Java, and reached there two days later. On the way we passed the scene of the disaster of the ill-fated French mail, *La Seyne*, which had been sunk a few days before in a collision with the British ship *Onda*. Her masts were just visible above the water, with lights burning to mark the spot where many bodies still lay entombed, and where, it is said, scores of the passengers and crew were devoured by sharks as they attempted to swim to the shore.

At Batavia the members of the expedition received every possible assistance from the Governor-General, and from General von Daalen, the Commander-in-Chief; the former of whom, to our great regret, succumbed shortly afterwards to an attack of cholera. It was here arranged that an escort of forty Javanese troops, under the command of Lieutenant H. A. Cramer, an infantry officer selected from the Headquarters Staff for this purpose, together with a staff of

ENLARGING THE STAFF

European non-commissioned officers should be attached to the expedition, as it was considered that the natives of New Guinea might oppose the landing on the coast, and in any case, the camps would need to be guarded whether the inhabitants appeared friendly or not. To assist the soldiers of the escort when in camp, and to act as their carriers should the expedition penetrate any distance into the mountains, sixty convicts were supplied, drawn mainly from Java, but with a sprinkling of representatives of every island in the Archipelago, supposed to have been picked for their ability to withstand the hardships of the climate. Many of these men were convicted murderers, and all had been sentenced to long periods of imprisonment. Some were even brought in chains to the ship, where their shackles were struck off, for it was well known that from the shores of New Guinea there was no possible chance of escape. They were supposed to have volunteered for the expedition, with the knowledge that as a reward for good work, the length of their sentences might be reduced. This practice of employing convict labour on New Guinea and other expeditions is commonly followed throughout the Dutch East India possessions, but whether the advantage of obtaining as good a ration as that served out to the soldier and a chance of a remission of their sentence outbalances the prospect of certain sickness, and very probable death to follow, is an open question.

Less masculine-looking men than the Javanese it would be impossible to find. Their large rounded hips and soft flabby bodies to the casual observer give them the appearance of women.

To assist the expedition by every means in their

THE LINE OF ADVANCE

power the Dutch Government promised to transport the whole of our force and stores to whatever landing-place might be selected as the point of disembarkation and, as far as practicable, to keep up a two to three monthly service between Amboina and New Guinea.

It had been the intention of Mr. Goodfellow before leaving England to make use of the Utaikwa River as the line of advance towards the mountains, but from information obtained in Batavia this was changed to the Mimika River. These were the only two rivers in this portion of New Guinea the mouths of which had been previously visited, and from the information available there seemed little to choose between them. As a matter of fact, as was afterwards proved, the Mimika is but a small jungle-fed stream rising in the low foothills fifty miles to the west of Carstensz peak; while the Utaikwa is navigable for an ocean-going steamer for a distance of seventeen miles from its mouth, and runs directly from the snow mountain itself. We had the choice of either, and chose the wrong one, and this, little as we expected it at the time, precluded all possibility of our ever reaching the snowfields and glaciers of the central range.

There followed an unavoidable delay of three weeks, during which time the soldiers and convicts were collected, and the ship prepared to take the heavy load of stores and building material, a cargo which not only filled her hold, but was piled high upon her decks.

While this work was in progress, Marshall and I made a tour through Java, but of this I need say little, as a report on this rich and prosperous island, an example of the colonising abilities of the Dutch, is outside the province of this book. With its teeming

DUE EAST

and peaceful population, its rich soil and intensive cultivation, it stands as a model of what the greater islands of Borneo and Sumatra will doubtless develop into in years to come. Compared with many other parts of the world the scenery is, to my mind, tame, though undeniably beautiful. Its places of interest are few and far between and, with the exception of the ruins of the ancient Buddhist temple of Boro-Boder, brought to light by Sir Stamford Raffles over a hundred years ago, and the active volcanoes, have little to attract the ordinary tourist. With the exception of the one temple mentioned above, there is nothing to approach in grandeur the glorious palaces and forts of British India, or the ruins of the temples and the homes of past dynasties scattered throughout that land.

What struck me most during the journey was the scrupulous cleanliness of the native villages, the result, I understand, of a Government order. Would that the Indian Government could do likewise!

The transport *Nias*, 850 tons, laden to her Plimsoll line, and crowded with soldiers, convicts and stores, left Soerabaia, the western port of Java, on Christmas Day, 1909, her decks piled high with bamboo poles, matting and building material. Her course lay almost due east, past the lovely islands of Bali and Lombok, clothed with their rice fields and dense forest vegetation, the summits of the mountains hidden in a mass of fleecy clouds, to Macassar in Celebes, and thence through a still, sapphire sea to Amboina.

Stalker had preceded us to this place for the purpose of collecting a hundred coolies to act as carriers for the expedition. For want of room it was impos-

A CURIOUS PRISON RÉGIME

sible to accommodate these men on board, and they were therefore shipped to Dobo by passenger steamer, to await a second trip to be made by the *Nias*.

Dobo, the chief settlement in the Aru Islands, was reached on January the 3rd. Dobo is a most uninteresting place, built on a spit of sand at the entrance of one of the numerous channels which split the islands into small fragments. The houses are built of corrugated iron, and are inhabited by a cosmopolitan collection of Chinese, Japanese, Indians and Malays, all dependent directly or indirectly on the pearl fishing industry. The only peculiarity the town can boast of is that the doors of the jail are permanently thrown open, and the prisoners can wander where they like, enter and depart at will, only being compelled to spend the night within the walls. It is reported, with what truth I cannot say, that a few years ago there was trouble in the prison, which was only quelled by the Governor announcing his intention to lock the prisoners out, a threat which soon brought the rebellious ones to reason.

As the islands are of coral, the question of fresh water is a serious one; every drop of rain being collected and stored with great care. The huge hulk of an old iron ship belonging to the Celebes Trading Company, moored in the harbour and used as a store-ship for the pearl fishing fleet, is roofed with corrugated iron, and forms the most lasting watertank in the district.

The town has no hotel, and requires none, for the hospitality extended to strangers by the British representatives of the Celebes Trading Company is proverbial in this part of the world.

By five o'clock the same afternoon we had embarked

THE ISLAND OF NEW GUINEA

upon the last and shortest stage of the journey, with the knowledge that when the sun next rose scarcely ten miles would separate us from the land upon which our minds had so long been set.

A sketch of the general aspect of the island of New Guinea, the land we were about to enter, will not here be out of place. To parody a guide-book: "It is the largest island in the world, being some one thousand one hundred miles in length, by four hundred miles in breadth, and having an area of three hundred and seven thousand square miles, or about the size of Great Britain and France combined. Throughout its entire length from east to west stretches a vast mountain range, of which the highest point is believed to be Mount Carstensz. To the north and south of this chain, which is known in the various districts under different names, stretch vast swampy plains covered with the densest forest, intersected by endless rivers, and inhabited by savage tribes.

"Owing to its proximity to the Equator, and on account of the central range which impedes every wind that blows, the climate is both hot and damp, and for these reasons is extremely unhealthy. Were it not for its great physical and climatic obstacles, and for the hostility shown by its inhabitants to the stranger, New Guinea would long ago have been explored and its secrets revealed, instead of being, as it is at present, the least known and most savage land on the surface of the globe."

To the Mimika district, the particular section we are most interested in, the same remarks hold good, with the difference that the mountains here rise to a greater altitude than elsewhere, and the plains are

THE COAST LINE

less extensive. Dense forest covers every foot of ground; there are no lakes or open stretches of water, nor, it may be added, forest paths. The only lines of communication are the rivers and the open sea, with dug-outs as the means of transport.

The natives congregate along the banks of the rivers and the coast, the forest itself being practically uninhabited. The coast line, to the casual observer, is hard and straight, with numberless small bays and creeks, but these are so hidden from passing ships, that they form no guide as to whether they are the mouths of great rivers or of muddy inlets. The bays, however, are often of great size, and would be invaluable as harbours were it possible to make use of them; but evershifting and treacherous bars close their mouths, thus rendering the great majority useless to sea-going craft.

CHAPTER III

First impressions—A doubtful reception—First overtures—Boarded by savages—Exemplary behaviour—Into the unknown—The Mimika river—An enthusiastic welcome—Wakatimi—A village community—Selecting a site—Unmannerly curiosity

IT was morning. The *Nias* was creeping on an easy swell through a cold, grey sea towards land. Five miles away a narrow strip of sand stretched east and west as far as the eye could see, broken here and there by groups of casuarina trees marking the mouths of hidden creeks and rivers. Between these estuaries mangrove swamps, and beyond, a level, unbroken plain of tangled forest, a belt forty miles in width and hundreds of miles in length, impenetrable, impassable save by river craft.

Over all hung a dense canopy of mist.

The sun rose, and with it came into view range upon range of knife-edged ridges; behind these a mighty rampart of rock, black, and apparently impregnable, showed hard and clear against the sky. Owing to the early morning haze and the great distance, but little of the great cliff could be distinguished beyond its bold outline. The regular and unbroken crest fell steadily away towards the west until it vanished into the valley dividing the so-called Snowy Range from the Charles Louis Mountains, and in the east reached its highest point in Mount Carstensz.

Carstensz, with its many peaks of nearly equal alti-

FIRST IMPRESSIONS

tude, grew in splendour as the icy pinnacles, snowfields, and glaciers caught the rays of the rising sun. It was a magnificent spectacle, this 14,000 feet of rock capped by 2000 feet of snow. Glaciers rolled down the slopes, broken by occasional chimneys of black rock, which, far from lessening the effect, only helped to bring into more vivid contrast the virginal whiteness of the snow.

In conjunction with, and immediately to the west of this great mass, lay a gently undulating snowfield, and beyond that again another group of snow-clad peaks, now named after the Governor-General of the Netherlands India.

Gaze as we might, in vain could we discover anything of the lie of the rivers or of the general trend of the ridges, nor was there anything to indicate which was the one most likely to be followed by the expedition in its progress inland.

Other events, however, now took place, of sufficient interest to stop, for the time being, any speculation as to the future.

A thin column of smoke was rising from the nearest promontory, an outpost of the Charles Louis Range, and this, evidently a signal of the approach of danger, was repeated with astonishing rapidity every few miles along the coast. At the same time a number of canoes, laden with savages, shot out from the inlets, paddling hard to cut us off, but owing to the *Niás* now shaping an easterly course along the coast, the majority were soon out of the running, but others, having more warning, were able to place themselves directly in the track and, waiting till we had passed, followed excitedly in rear, whilst a few, avoiding a close approach,

A DOUBTFUL RECEPTION

remained satisfied with a distant inspection. There is no sight more beautiful or more animated all the world over than a fleet of these dug-outs, each manned by a dozen or more Papuans, who, standing and working in perfect unison, drive their frail craft through the trough of a choppy sea with mighty strokes of their paddles. The fine physique of these men, with their shining black skins, their only conspicuous ornament a few white feathers in their hair, is shown to the best advantage when wielding their paddles, and the whole scene forms a perfect example of beauty and force combined.

Numbers of canoes at varying intervals were still following the ship, when at 3 P.M. Commander van Herwerden came to the conclusion that the Mimika River had been overshot. This was not to be wondered at, as with every mouth and creek exactly like the last, the chances of locating the entrance were decidedly remote. The relief-ships later on did not experience similar difficulties, for a peculiar formation of trees at the mouth of the river was sufficient indication of the position required. It by no means followed, however, that when once they had arrived the stores would be landed or the sick removed from the shore, for on more than one occasion the heavy surf forbade a landing, and the ship was compelled to weigh anchor and depart, to the grievous disappointment of all on shore.

No canoes venturing near or paying any attention to our hails, the launch was lowered, and made for a spot where numbers of excited and gesticulating savages could be seen collected on the sands. Those in the canoes were evidently beginning to realise that our intentions were peaceable, for before we had gone far they began to close in, and it was to them we turned

FIRST OVERTURES

for the required information. One canoe in particular was signalled out, not so much on account of its greater size, but because of some bright bunting seen waving from the stern. To our intense surprise, a nearer approach showed this to be a pilot's Union Jack which, before we got to close quarters, was taken down and stowed away, probably from fear that it might be seized. Try as we would, we were never able to persuade these people to bring it forth for our inspection; when asked for it, they simply expressed complete ignorance of what we desired, a simple and effective subterfuge owing to our limited knowledge of the language. Possibly it might have told a tale they thought it better that we should not know. We chose, however, to look upon the augury as a good one, and, steaming alongside, beckoned to the most important-looking individual in the canoe to come into the launch, a feat he was nothing loath to perform. Without uttering a word, he proceeded to shake hands all round, including in his attentions the engine-driver and stokers, giving the ordinary hand-grip to commence with, but immediately snatching his fingers away. The Papuans of this district, as we afterwards found, occasionally greet one another in this fashion, but more often with both hands, and if this does not show sufficient warmth they add a kiss.

The word Mimika was sufficient for our newfound guide to point to a promontory some two or three miles to the west. He accompanied us on board the *Nias*, and comported himself with perfect decorum, as, indeed, was only to be expected, for he turned out to be the chief of the village of Nimé, and the most important individual in the district. There was, however,

BOARDED BY SAVAGES

nothing in his style of dress to distinguish him from his followers.

Seeing their chief step on board with every sign of confidence, the rest were encouraged to follow his example, and within a minute the gangway was blocked with a seething mass of savages. No signs of fear were displayed, no shyness, and no undue curiosity—the one idea was to set foot on board; and it was evident they had been treated with such consideration when visited by the Dutch ship three years previously that the arrival of the white man gave rise to no feelings of fear or suspicion.

On they came, boatload after boatload, till a hundred naked savages were grouped in a compact mass on the deck. For the moment they had obtained their heart's desire and were satisfied, but soon the bolder spirits began to trickle away down below, to emerge shortly afterwards dressed in the cast-off clothing of the Malay firemen, horrible and ludicrous examples of how the human form can be disfigured. Broad grins suffused their faces, not unmixed with pride, when their now naked-looking companions gazed with jealous eyes upon these acquisitions. The anchor was soon raised, and within an hour a fresh berth had been taken up in three and a half fathoms of water, and two miles from the mouth of the Mimika River.

At dusk the captain gave orders for the ship to be cleared, but in this he had reckoned without his guests. Determined to spend the night on board, the canoes had been sent away as soon as the owners had set foot on deck, thus removing the only possible means of communication with the shore. Three newly arrived canoes were, however, commandeered, and into them as many

EXEMPLARY BEHAVIOUR

Papuans as possible were driven, and as it was out of the question to force the remainder to reach dry land by swimming, particularly as the sea was full of sharks, we had perforce to allow many to remain on board. It mattered little, as they were behaving themselves in the most exemplary manner. A more phlegmatic crew I have never seen; squatting in silent rows, they absorbed everything presented from food to the veriest trifles, and neither the electric light nor the throbs of the engine seemed to cause the least surprise or fear.

Unaccustomed to late nights they dropped off to sleep as soon as darkness came on, tucking themselves into one another in long rows, their faces in the same direction and their heads resting upon the brass-bound steps or any other convenient projection. With daylight came dozens of fresh craft, and in these our too-clinging friends took their departure.

Before deciding on our future course of action it was necessary, first of all, to examine the river and its banks, in order to select some suitable site upon which to build the base camp, for when once the stores had been landed there would be no possible chance of moving to another position. The launch was again lowered, and within an hour of daybreak Goodfellow, Cramer, and I, together with ten Javanese soldiers and the guide of the previous day, were approaching the bar across the mouth of the Mimika, on which the surf was beating heavily. All went well. Two fathoms of water lay over the bar; the enclosed mouth of the river opened out into a bay a mile in length and a thousand yards in width, with sufficient water to float any boat we were ever likely to use. On either hand lay the villages of Atabo and Taroké, evidently erected

INTO THE UNKNOWN

merely as temporary shelters for those engaged in sea fishing. Astonished throngs watched us pass in silence, the bolder men in the foreground, the women and children peeping from behind the mat doors of the huts. These showed no fear, though possibly their numbers alone gave them confidence; as we progressed up stream the occupants of odd canoes encountered fled terror-stricken into the undergrowth at the first sign of the white man, in two instances leaving their canoes drifting helplessly on the current of the stream.

Mangrove trees covered the banks, their bare roots projecting in a tangled mass from a sea of slimy mud, over which no man could move. This growth gradually gave place to vegetation requiring a more solid foundation beneath which scrub jungle appeared, becoming more and more dense the further we advanced. Up beautiful stretches of the gently winding river we passed, cheered by distant views of the mountains and the snows of Carstensz, at this early hour clear of cloud. Dank and gloomy creeks opened out on either hand, in the smallest of which fishing-nets could be seen so placed as to entrap the fish on the falling of the tide. Slimy, evil-smelling mud covered the land, silent evidence of the inundation which took place at every tide; everywhere roamed countless numbers of crabs, large and small, together with a species of climbing fish which, with swift strokes of its tail and fins, sought cover amidst the roots, or, if on a branch, flopped noisily into the water. Overhead passed white cockatoos, screaming with fear, their yellow crests distended with surprise; egrets, tree ducks, pigeons, flocks of beautiful but noisy parrots and lories, and innumerable other varieties of bird life. On the bank basked a



A FOREST IMPASSABLE FOR MAN

The four-mile belt of mangrove swamp along the coast ; showing the tidal mark.



WAKATIMI VILLAGE

A village situated opposite to the base camp, and noted for perpetual strife and drunken brawls.

THE MIMIKA RIVER.

small alligator, whilst water-snakes, making for the nearest cover, now and again rippled the glassy surface of the water. This highway of the island teemed with animal life startled into activity by the unwonted apparition of a steam launch.

Three miles from the mouth the river divided; the Mimika proper still flowed from the north, while from the west entered the Watuka, with a volume three times as great as the former and of a milky colour, a fairly certain proof that its source was in the distant mountains. The Mimika was but a tributary, and, to judge by its dark and oily waters, a jungle-fed stream, with its origin to be found not amidst the distant snows or even the highlands of the lower ranges, but probably in the marshy levels of the low-lying plain. Still, as the Watuka came from the west and our course lay evidently to the east, in the direction of the snow mountains, no apparent object was to be gained by changing to that more prepossessing looking river. The Mimika had been selected as the line of advance whilst we were in Java, and to this decision we had to adhere, there being no river transport at our disposal wherewith to prospect for other routes should the one chosen prove unsatisfactory. The Mimika had by now shrunk to a width of about a hundred yards, the slimy banks being covered to the water's edge with a tangled mass of creepers and cacti, and evidently, even at this distance from the sea, subject to periodic inundations.

Not a soul was to be seen. The river seemed as deserted as the grave. This was due either to fear, or more probably had been arranged by the savages in order to afford a more striking welcome, for, as our launch suddenly rounded a bend in the river, a wild

AN ENTHUSIASTIC WELCOME

yell from the banks burst upon our ears, immediately followed by the appearance of a dozen well-filled canoes. Without awaiting our closer approach, every man cast himself backwards into the river, only to scramble on board again and repeat the performance, which might have gone on for ever had we not rapidly steamed through the fleet. Escorted by their canoes we turned into a straight stretch of water, at the far end of which the cocoa-nut palms of a village could be distinguished, the rising smoke showing where the huts lay. This was Wakatimi, spoken of by the Dutch, and near which place Goodfellow had hoped to find a convenient site for the base camp.

The excitement was intense. Men, women, and children poured down to the banks of the river, adding their clamour to that of our escort in the canoes. No welcome could have been more enthusiastic, and few sights more astonishing. The women cast themselves into the mud, rolling over and over and plastering themselves from head to foot, while the men and boys preferred the cleaner operation of throwing themselves backwards into the water. The women, now hardly to be recognised as human beings, but delirious with joy and excitement, started an inartistic dance, going down on hands and feet and wriggling their bodies from side to side with their sterns waving in the air; their chief desire appeared to be to throw as much movement into that part of their anatomy as the position would allow. The moment we set foot on land the women and children fled for safety to their huts, diving into them like a lot of rabbits into their burrows, and there remained, rows of frizzy heads and gleaming eyes being the only evidence of their existence.

WAKATIMI

Wakatimi itself consisted of one long row of about a hundred huts placed side by side and touching one another, so that the whole village somewhat resembled a single room. In front of the habitations ran the main street, bordered on the river side by a thick row of cocoa-nut palms. Small muddy creeks led from the river to the trees, and in these minute harbours rested the canoes. Cleanliness was not practised in any form, the refuse of the huts and the remains of the feasts being cast into heaps close by; over these roamed boys, pigs, and dogs seeking for food or a point of vantage from whence to survey the scene. Unlike other districts of New Guinea, where the house is almost invariably erected upon piles, the huts are here built upon the ground and are of the rudest possible description. A more permanent form of building is not favoured by the natives of these districts, for the heavy rainfall, playing havoc with any ground cleared of vegetation, often changes the course of the rivers; and, in addition to this, owing to each district being rapidly denuded of its available food-supplies, the tribes are obliged to adopt a more or less nomadic life. Those living on the coast are less affected by the question of food, as fresh fish is always available and, even when sago is scarce, suffer little inconvenience.

Not only in appearance but in reality is the village one long room, for a new arrival builds his hut on to the end of the row of buildings already standing and, when completed, removes the partition. This communal building, for such it may be conveniently termed, may stretch to any length according to the amount of ground available and the number of families to be housed.

A VILLAGE COMMUNITY

Each family owns its particular doorway, but beyond this there is no privacy or right of possession. The floor consists of sand brought from the seashore, upon which, to make the place a little more habitable, grass mats are laid. Fireplaces are dotted about anywhere, each family possessing at least one which is used primarily for the purpose of cooking, and at night as a stove round which the members of the family curl for the sake of warmth. Smoke fills the interior of the huts, escaping as best it may, blackening the walls and human skulls and bones which dangle from the roof or are suspended from any convenient projection. Of furniture there is none, except for an occasional wood pillow, to our minds the most impossible of rests, since it is balanced upon two legs and is so decorated with carving as not to leave one square inch of smooth surface upon which to rest the neck. Encumbering the floor space is an indescribable conglomeration of babies, pi-dogs, sago dishes, full and empty string bags, bows and arrows, and other objects, whilst just outside the entrance, ready for instant use, stand the spears and stone clubs, as freely used in family quarrels as in repelling a hostile force.

But I am getting on too fast. Our thoughts at this time were focussed upon the one idea of obtaining a good site for the base camp, in the choosing of which two things had to be remembered. First, to select a spot within easy distance of the sea and yet beyond the reach of inundation, and next to see that it was close to a native village, from whence it was hoped local labour might be obtained for the construction of the huts and to pole the canoes up the river. Wakatimi seemed to offer both these advantages. From the general air of

SELECTING A SITE

permanency which pervaded the village, it appeared unlikely that the site was subject to floods, though it was evident, from the great rise in the river which took place daily, that we were still within the area of tidal waters. The lie of the land led one to believe that the effect of the tide was to be felt for many miles farther inland, and that a safer site might be found higher up the river, but then it was improbable that another village existed within a reasonable distance, and, moreover, without a launch great difficulty would be experienced in communicating with the relief ships. On the bank opposite to the village a possible site offered; at this point the river doubled upon itself, leaving a peninsula almost surrounded by water. Here sanitary arrangements would be more easily supervised, and we would be near to, and yet not affected by, the Papuan habitations. On this spot Goodfellow decided that the stores should be landed and the base camp built, as in addition to its other advantages it was of a convenient size and only sparsely timbered.

Having been escorted up and down the village two or three times by the able-bodied men, and after indulging in various amenities (neither knowing the other's language), including introductions to the more important-looking savages, we crossed to the peninsula, and there left Cramer and his men to camp for the night and prepare for the advent of the stores and building material on the morrow.

Cramer had a more unpleasant task than was anticipated, as the railing which he at once erected round his tents was over and over again pushed to the ground by the weight of the ever-increasing number of spectators. He spent a most uncomfortable night, but next day

UNMANNERLY CURIOSITY

ome relief was experienced by adding to the working parties who, in time, were able to build a palisade sufficient to withstand all possible strain. It was not that the Papuans were offensive; it was simply an overbearing desire to see more of the weird race who had so unexpectedly come into their midst. Later on, as the novelty wore off, their behaviour became less pleasant, sulkiness and insolence taking the place of curiosity, to such an extent that it was found necessary on two occasions to make an example of the offenders. Relations then improved, and remained more or less friendly to the close of the expedition.

Drink was entirely responsible for any hostile feeling displayed, and the cutting down of some of the sugar-palm trees in the vicinity of the camp removed temptation out of their way. As these trees were used for no other purpose than the extraction of beer, this involved no real hardship on the villagers.

CHAPTER IV

Coast and up-river tribes—The Papuan—Albinos—Native hairdressing—
Personal adornments—Native costume—Civilisation and morality—
Compulsory clothing—Widow's weeds—Male attire—Improving nature
—The drunken savage—Corporal punishment—Treatment of children
—Female subjugation—Native diet—A curious delicacy—A fertile soil
—Native indolence

THE inhabited portion of the Mimika district consists of four distinct zones. The most southerly is the belt of land twelve miles in width running along the coast, and inhabited by the people known as the coast tribes. Immediately to the north of this is a barren or sparsely tenanted strip of country; while to the north again, but still in the plains, is the zone comprising the territory containing the headwaters of the smaller rivers, and inhabited by people usually known as the up-river natives. There still remain the lower foothills of the main central range of mountains in which dwell the small men, or the pygmies, called by the plainsmen Tapiros. Of this latter race I shall have more to say later on.

Though the plainsmen live on the same river, and are doubtless of the same stock, the coast and up-river tribes are at constant enmity, neither branch desiring intercourse with the other, nor, except on rare occasions, is there any trade between them. With the tribes which live directly to the east and west they each have the closest relations, though even here they are not too demonstrative in their affection when they meet. This

THE PAPUAN

is hardly to be wondered at, when it is known that even individuals and families of the same village are perpetually quarrelling amongst themselves, the slightest excuse being usually sufficient to fan into flame the smouldering embers of real or imaginary wrongs.

Physically the Papuan of the Mimika Coast is an extraordinarily fine creature, which is all the more surprising when the slothful life he leads, the meagre food upon which he subsists, and the amount of disease prevalent in this swampy district are taken into consideration. The average height is about five feet six and a half inches, slightly above that of the average European, whilst the chest measurement shows an excess of two and a half inches. The muscular development is immense. The arms slightly exceed in length those of the Western races, though the lower limbs are not so powerfully moulded as the trunk and upper extremities. The head is small in circumference, on account of the slight development of the occipital prominence. The jaw is heavy and square, but not prognathous. The eyes, set rather close together, are dark brown in colour, the iris not hard and distinct, but gradually merging into the blotchy light brown of the eyeball. The nose is straight, arched, and decidedly Semitic in type, the nostrils being flattened, but not to the same extent as in the negro. The teeth, as is the case with all savages, are strong and regular, and in the case of the males often filed to a point. I have used the word "filed," but the way in which this deformity is effected is by chipping away the sides of the teeth with pieces of flints or sharpened shells, used in the same way as a chisel. In colour the Papuan is almost coal black, the women being slightly fairer than

NATIVE HAIRDRESSING

the men. During our stay we saw three albinos at various times, all males. Two of these were full-grown men; both possessed hair of a dirty reddish colour, while their skins were of a pale whity-pink, with here and there patches of a darker hue. Though of good physique, the weird colouring and disfiguring blotches rendered them altogether repulsive objects. A black man always appears dressed, and, from the point of decency, requires no clothes, but these two, owing to their sickly and uneven colouring, appeared not only objectionable but naked as well. The third was a baby of about nine months old, of which the parents, both coal-black Papuans, were inordinately proud. His hair was sandy, and his eyes (practically without pigment) of a pale grey colour. In their heedless way the parents habitually carry their children face uppermost, so that this mite, in the full glare of the sun's rays, suffered considerably, judging from the way in which he screwed up his eyes.

∨ It is a pity that the Mimika Papuan cuts off that magnificent crop of fuzzy hair which is so much respected and admired in other parts of New Guinea, for in so doing he loses much of his natural picturesque appearance. This wonderful head covering, which if left to itself will provide the owner with a natural adornment three or four feet in circumference, is here so trimmed that the growth is reduced to, at the most, four or five inches. Until our advent knives were unknown, and the hair was removed by a slow and not altogether pleasant operation, in which the barber either made use of a sharpened shell or got rid of the superfluous article by placing it on the edge of a split cane and rubbing it with a stone until the desired effect

PERSONAL ADORNMENTS

was obtained. This custom may be of some use from the point of view of cleanliness, but it certainly does not completely eradicate the objectionable insects so prevalent amongst these people. Their hair either remains as it leaves the tender mercies of the barber or is plaited into small ridges, a fashion that gives an uncommonly neat appearance to the wearer, but which requires so much time for its completion that days and even weeks elapse before it is again taken in hand. This custom is mainly confined to the young bloods, the older men, being careless as to their appearance, prefer to let the hair grow as nature intended it. Into the hair is thrust, particularly on festive days, a number of white cockatoo's tail feathers, which stand out at every angle, and on still more rare occasions some brilliantly-coloured flower. In some instances many feathers of the same bird are formed into a ray standing up all around the head, affording a very pleasing effect. The glorious orange plumes of the Greater Bird of Paradise are only worn on very important occasions, or by the performers at a sing-song, thus greatly adding to the picturesqueness of such a scene. These feathers are kept in position by a band passed round the wearer's brow, or by a kind of crown made of plaited grass in which as many as five plumes are sported at one time. One or two men encountered during the last month of our stay, who said they came from another district farther west, wore their hair in the form of a half halo, the rays being formed of many pieces of cane plaited into the hair, and standing at right angles to the scalp. This must have proved highly uncomfortable at night, necessitating the use of a wood pillow or something upon which to rest the

NATIVE COSTUME

neck. Round the biceps, and also above the calf, are sewn bands of finely-woven grass, two or three inches in width, worked into some pattern by the introduction of another strand of bright yellow. No other decorations are favoured, except occasionally a string of large blue and white beads slung around the neck. These beads are often much worn at the edges, appear to be of great age, and have most probably been brought into the land by the natives of the Kei Islands to the south. That these latter people do occasionally visit the coast of New Guinea is certain, as the Papuans know them by name and apparently bear them no enmity. Their probable object in coming is to seek for cocoa-nuts with which to trade in copra, a valuable commodity in the East.

✓ The women are given to still less self-adornment than the men, and, with the exception of a few beads, wear nothing but the loin-cloth. This is made from the bark of a tree, beaten for hours until it is as thin and pliable as paper. A strip is passed between the legs and through a string tied round the waist, leaving about a foot of the ends pendant in front and behind. Poor wretches! their days are one long round of toil, and they have little leisure to think of trinkets or decoration. Girls are similarly adorned when very young, but boys go about quite nude until they are fourteen or fifteen years of age, or even until fully grown; some indeed refuse to wear anything all their lives. Nothing obscene or indecent is ever visible to the stranger, and the absence of privacy in the communal home tends to preclude the possibility of immoral behaviour at any other time.

Immorality is one of the evils which spring from

CIVILISATION AND MORALITY

civilisation. At present the morals of these natives are as nature made them, and will remain so until the advent of the trader with unlimited cloth, or of those misguided missionaries, whose first idea in converting the savage to Christianity is to conceal from view, behind hideous and non-hygienic garments, the form of one of the finest animals in creation. With this phase of civilisation, dirt, disease, and vice will take root and flourish, to end doubtless here, as elsewhere, in the extermination of the aboriginal stock. This question of compulsory clothing, insisted upon by so many in their efforts to convert the savage to Christianity, is the one and only point in proselytising work to which I am entirely opposed. In a climate like this, where day and night, month in and month out, the temperature lies between 70° and 93° Fahrenheit, where the heavens pour down an everlasting flood, and where the only means of communication are by river and sodden jungle paths, can anything be more ridiculous than to supplement the natural oily skin covering of the native by the unhealthy, uncomfortable, and ugly garments which custom has decreed civilised man must wear? Take Amboina for example. What can be more inappropriate than the black alpaca coverings worn by the Christian women? One might almost weep at the sight were it not so ludicrous. I am glad to see that the Administrator of British New Guinea has lately issued a warning to all natives against the prevailing craze for European clothing. Let us hope that it may bear fruit. Apart from this minor point, however, there is no portion of the earth's surface where the teaching of the great message, "love one another," is more urgently required.

MALE ATTIRE

If dress can be looked upon as a source of pleasure, widows in Papua are to be envied, inasmuch as they are required to adopt outward and visible signs of their bereavement. A widow of standing will decorate herself with a short and scanty bodice of woven grass, which leaves the stomach bare, while from the hips will hang a still more ragged form of skirt, usually in an unspeakably dirty state. Surmounting all is a peculiarly-shaped poke bonnet, made of the same material, which fits tightly to the head and projects in front as much as a foot; unless the lady wishes to be seen, this completely hides her face. Young widows are not so careful to conceal their charms, and are usually satisfied with the scantiest of skirts in the form of bunches of grass hanging in front and behind, and, if they fancy it, with more tufts hanging from the biceps. As may be imagined, these do not favour the bonnet.

As is to be expected in a country situated on the Equator and at the level of the sea, clothing is practically non-existent. The style of dress worn by the men varies according to the taste of the individual, almost all having some form of pubic covering. The kind most commonly worn consists of a strip of bark cloth, similar to that of the women, but narrower and shorter, a large white and flat sea-shell placed on the stomach, under which is caught the præputium, or a hollow and beautifully carved bamboo, five or six inches in length. On this latter sheath they expend all their ingenuity and knowledge of carving, a picture of the human eye occupying a prominent position, as it does on all household and personal articles.

✓ Tattooing is of the crudest description, and is not

IMPROVING NATURE

practised to any great extent ; it usually takes the form of scarifying the breasts of the women on the inner sides, thus contracting the skin and raising unsightly ridges three-quarters of an inch or more in height. Some few have their backs cicatrised in a like manner ; the slashes are made in any direction and, so far as we could judge, without following any definite pattern. This operation is performed with sharp shells heated in the fire ; it is a painful process, from which the men are exempt, except for the tribal mark which they all have on the buttocks, in the shape of a diamond with three lines radiating from the corners. The lobes of the ears of men and women alike are pierced, and any ornament fancied by the wearer is suspended from them. After our arrival many of our useless odds and ends, such as saccharine bottles, Jew's harps, &c., there found a resting-place. The lobes and sometimes the septum of the nose are likewise pierced, the initiation ceremony taking place when the child is ten or twelve years of age ; the hole is kept open by a plug of wood, to which a fresh twist is given daily. Aseptic surgery being quite unknown, it is not surprising that in many instances the septum sloughs away, and the man is left with a nose as pointed as a needle. When it is desired to impart a particularly fierce expression to the face, the split mandible of the hornbill is worn through the hole in the septum. This ornament, consisting of two thin white blades of horn, each five to six inches in length, with the ends curving upwards, will so alter the expression of the wearer as to convert the mildest looking man into the fiercest and most truculent of warriors.

These savages, violent and hasty in temper, rush to



WIDOW'S WEEDS

A widow in her weeds of tufts of grass and plaited bodice

THE DRUNKEN SAVAGE

arms on the slightest provocation. Without warning, a peaceful village is in a moment converted into a scene of turmoil and strife; spears whizz through the air, clubs are wielded indiscriminately and with murderous intent, while the place resounds with wild yells of all and sundry. It is curious that the members of small communities such as these cannot live together in harmony. Wakatimi was a particularly guilty village in this respect, a day rarely passing without noisy and sanguinary broils, and it was drink which was largely responsible for this state of affairs. Beer-drinking parties set out daily for the popular spot where the sugar palms grew and remained there for hours, returning sodden with alcohol to the village in a fit state to participate in any brawl or devilment which might be on foot. Two small boys usually accompanied each party to climb and tap the sugar-palms and make themselves generally useful. The return to the village was heralded by loud and discordant cries and much singing, followed soon after by wife beating, house burning, or some such attractive form of amusement. One case, however, I must mention, which shows that here, as in other more civilised parts of the world, when a married couple quarrel, it is not always the man who has things all his own way.

The headman of Wakatimi, a pleasant enough creature when sober, invariably wanted to fight when under the influence of drink, and usually chose his wife as the object upon which to work off his feelings. Returning one day from a carouse, he seized his bow and arrows and used his wife as a target. But the trees of the village were in the way, so taking to his canoe, he pushed off into the open stream and started

CORPORAL PUNISHMENT

his practice afresh. What with the lurching of the canoe and a muddled brain the shooting was decidedly poor, and this enabled his wife to stand in comparative safety upon the bank and dare him to do his worst. Satisfied with the brave show, and having exhausted his stock of arrows, he returned to the shore, little dreaming of the reception which awaited him. Screaming with rage, the infuriated wife tore the bow from his hands and broke it into splinters over his back and over the canoe. Completely cowed, he turned and cooled his heated head in the water, and was then driven, an abject and pitiable wreck, to their hovel, whilst his angry spouse followed him up and improved the occasion with an endless stream of Billingsgate.

✓ Fathers and mothers are alike kind to their children. As is natural, during babyhood the mother's affection is the stronger, but at the age of five or six the boy frees himself from such trammels, goes out when he wishes, does what he chooses, and merely returns to the family hut for his due allowance of sago and fish, or occasionally to refresh himself at the maternal breast. Girls are more timid, cling closely to their mothers, and join at an early age in the daily labour in the sago-swamps; they rarely leave their mothers until the time comes for them to found a new home and family of their own. Boys appear more numerous than girls; possibly, as in Tibet, a provision of Nature to keep down the population. The children are well-behaved little creatures; they know better than to behave disrespectfully to their fathers or to anyone bigger than themselves, and never hesitate to obey an order. They are consequently treated with kindness and are only beaten on rare occasions, and,

TREATMENT OF CHILDREN

from what I have seen, only when they deserve it. Uncontrollable temper is their besetting sin; an obstreperous boy, wild with rage at being thwarted, will defy his mother and all his female relations. For a time every persuasive epithet is used to reduce him to submission, and not till all peaceful means have been exhausted is corporal punishment resorted to. It then descends like a tornado in the form of a shower of blows from the irate mother, sufficient to drive all breath from the body and thus ensure silence and submission. I never saw a girl struck.

Justice, as we understand the term, is unknown. Here, might is right, and it is entirely in the hands of the stronger to settle what is right and what is wrong. Woman, the weaker creature, is consequently relegated to a very inferior position, and is, in fact, the slave, body and soul, of her lord and master, becoming his property to deal with as he pleases. Condemned to toil from morning till night, beaten if she does not satisfy his every want, the wife seeks for and prepares her master's food, builds his hut, makes the matting and bark cloth for his bedding and his clothing, carries his household goods from place to place and helps to pole his canoe. Her chastity is of no value in his eyes, he will offer her to the first white man he meets, and probably to all his friends.

But little ground is cultivated. A few cocoa-nut and banana trees and two or three dozen tobacco plants are found in the neighbourhood of most villages, but the natives depend for their food-supply almost entirely upon what the jungle and rivers produce. Sago is the staple food, and an unlimited supply is to be found in any of the forest swamps. Collection entails

NATIVE DIET

much labour, the tree having to be felled before the food can be extracted. The simplest and most usual way of cooking the sago is by rolling it into balls and placing it on the hot embers until warmed through, when the outer crust becomes hard. It is quite tasteless and gives little pleasure to a civilised palate, but that it is nutritious goes without saying, and indeed is proved by the splendid physique of the savages. The next most important article of diet is fish, and this can always be obtained in ample quantities if the water is in good condition for fishing, and if sufficient perseverance is shown. Along the coast enough fish can be caught to supply the needs of the villagers with the minimum of exertion. Meat is much appreciated and eagerly sought after, pig being considered the daintiest morsel, then wallaby, cuscus, and cassowary. Now and again a bird is obtained, but this is generally the result of luck rather than skill.

✓ The above are the chief articles of food, and any other supplies which may be brought in are looked upon more as occasional luxuries than articles of everyday diet. These comprise small alligators, tortoises, iguanas, snakes, prawns, and last but not least the white grubs found in the decaying trunks of the sugar palm. These grubs, which are about two inches in length and nearly as thick as one's little finger, are to be found in tens of thousands in a tree ripe enough to support them, and are looked upon as a great delicacy. It is a most interesting and rather disgusting sight when a lucky finder hauls the trunk of a grub-bearing palm down stream and grounds it on the village shore. Apparently it then becomes the property of all, or the whole village is invited to join in the feast, which

A CURIOUS DELICACY

amounts to the same thing. Without loss of time every soul—man, woman, and child—troops down to the find, the tiniest tots toddling in rear of their elders, all hastening along bent on being in at the death, each carrying whatever instrument first comes to hand with which to detach a piece of the richly laden wood. Others hasten up from more distant huts and join the crowd until it resembles a swarm of black ants seething round the body of a dead animal. From time to time one of them having secured a good slice breaks away from the surging mass and departs to devour his meal at leisure. For those who remain to deal with the main portion of the trunk there is now no time to be wasted, and the wriggling grubs are drawn from their holes and popped into their captors' mouths as fast as they can be seized. When the tree brought in is particularly rich in food the greedier natives may be seen with half a dozen squirming grubs in each hand, all destined for the same sad end as soon as space can be found. The sight is not a pretty one, but it is worth watching to see the smile of satisfaction upon the faces of the gourmets as they enjoy this unexpected addition to their usual monotonous diet.

Bananas grow well wherever there is light and air, but the young shoots of this tree have to be transplanted, and though this entails but the lightest labour, they are not produced in any quantity except at the village of Obota, at the mouth of the Kaparé. There are no cocoa-nut trees along the upper reaches of the rivers, though they form an important item in the food-supply of the villages on the coast, and with the exception of sago, there is practically no vegetable food found growing in a wild state in the forests. There is indeed a

A FERTILE SOIL

tree bearing a small green fruit resembling a plum in flavour and appearance, but this only ripens for a very limited period of the year. Small and tasteless figs of various descriptions are to be met with, but of such poor quality as not to be worth picking, besides which a worm appears in them before they ripen. Near the villages one occasionally sees one or two bread-fruit or papaya trees, but they are few and far between, and no trouble is taken to cultivate them.

The natural richness of the soil is such that even the most primitive methods of agriculture would be amply rewarded; but in Papua, as elsewhere, one observes that where nature is most lavish in her gifts man is too indolent to make use of them. That the soil is of great natural fertility was shown not only by the flourishing gardens, the result of a few months' work on the part of the Dutch soldiers and convicts at Wakatimi, but also by the luxuriant growth of the few seeds planted in our small gardens at Parimau. A single pumpkin plant would grow completely over the roof of a hut and, spreading to the next, would envelop it also in its folds. Rice grew and flourished without any attention being paid to it from the day it was sown; and beans, planted by our Gurkha escort, attained a height of 25 feet within a few months of being placed in the ground, and produced a plentiful crop to the great satisfaction of the sturdy hillmen who had introduced them into the country.

So rich is the soil that successful cultivation is rendered difficult by the great amount of labour required to keep the ground clear of weeds and other parasitic plants. The vigorous bush springs up immediately and relentlessly throttles the foreign

NATIVE INDOLENCE

importation, so that, without constant weeding, the cleared area in a comparatively short time reverts to its forest growth; the indigenous weeds and shrubs indeed appear to flourish with renewed vigour on such a clearing, as if eager to reconquer the ground temporarily wrested from them by the renegade plants which exist only to serve the needs of man. Before our arrival the primitive tools in the possession of the savages made it impossible for any thorough clearing of the ground to be successfully carried out, but even with proper implements it is most unlikely that their natural indolence will allow them seriously to attempt the removal of weeds and shrubs which in this country of luxuriant growth is an essential preliminary to any effort at cultivation. Some axes we left behind, but it is highly probable that they are now more frequently used in family or tribal quarrels than for the useful but uncongenial purposes for which they were intended, and I do not doubt that the forest has long since reclaimed the flourishing gardens which we handed over to the villages on our departure.

Such were the people amongst whom we were to pursue our labours for the next fifteen months, and such were our first impressions of the unknown country into the interior of which no European expedition had hitherto penetrated. What lay before us we did not know, but through all our struggles and disappointments the thought that we were doing something, however small, to lift the veil from one of the dark places of the earth buoyed us up and gave us courage for further effort.

CHAPTER V

Shark-fishing—Poor sport—Barter and exchange—A primitive aboriginal—Ugly rumours—Cannibalism—An open question—Difficulties of pioneering—Learning the language—A Papuan canoe—Buying a fleet

DURING the days following our arrival at Wakatimi the work of transferring the stores from the ship to the base camp was carried on without intermission, and by the ninth day everything had been landed, and the huts were in course of erection. The forest had been cleared over an area of a couple of acres—not a difficult task, as the land there was more sparsely timbered than at any other spot in the district.

During the progress of this work, those who were still on the ship varied the monotony of their hours by fishing for sharks. Having heard that the waters surrounding New Guinea swarmed with these objectionable creatures, we had, when in Batavia, purchased two large iron hooks with wire attachments; these, together with a good, strong rope and a few pounds of pork, formed a very efficient outfit. Before casting the bait overboard elaborate preparations were made, in view of the anticipated struggle, to bring a powerful strain to bear on the line as soon as the hook was well home. The fishermen had but a few minutes to wait before a steady pull on the line showed that a shark had already got to work. Many willing hands grasped the rope, ready to meet the rush which was expected, but, except for a run of a few yards, and half a dozen sullen tugs, the fight turned out a fiasco. Two men were all that were required to drag the beast alongside; he was there

SHARK-FISHING

despatched with a couple of bullets, and the carcase hauled on deck. After much chopping with axes the hook was extracted, and the body cut into pieces and thrown overboard. Two more were captured in rapid succession, the bellies of each filled with cast-away portions of their deceased relative, but neither gave a better display of strength or courage than the first victim, though three or four bullets were necessary to finish them off. We were surprised to find that such immense and reputedly savage creatures could have so little fight in them. The game proved so uninteresting that after the capture of the third victim it was abandoned, and this decision was the more readily come to as the captain had strong objections to his deck being turned into a shambles. When one considers the size of these sharks, it is hard to believe that such monsters are incapable of putting up a better fight for their lives. Though some of the stories one has heard of ferocious struggles and desperate rushes made by sharks when hooked are doubtless exaggerated, many are so well authenticated that one must assume that the sharks which abound in the seas of New Guinea are more cowardly and sluggish than those in other waters, where they are considered to afford good sport. None of the sharks we caught were small, and though when drawn alongside the ship they were quite anxious to get away, they did not seem to have sufficient strength to do so. They subsist mainly on crabs and what can be found on the bed of the sea. The smaller kind the natives themselves catch and devour with as much relish as they do other and more prepossessing-looking fish. Sharks are always put down as savage and voracious antagonists when they meet man in their own element, but from what we were able to observe this

BARTER AND EXCHANGE

cannot be considered as universally true. The Papuans go far out to sea in their frail craft, and in rough weather often get upset; in fact, this happened to them many times whilst hanging around our ship, but on no occasion was a man attacked, nor did the natives show any fear of such an eventuality.

While those at sea were enjoying this mild sport, those on land had plenty of opportunity to examine the people amongst whom they had been cast. As they had no idea how long we were to stay in their country, the Papuans displayed great anxiety during the first few weeks to take our rubbish in exchange for their most valued possessions. At this time everything new was precious in their eyes, however useless in reality. Little enough they had to barter, but what they brought was eagerly sought for by the collectors, or, if it was in the shape of food, by the soldiers and coolies. Paddles, bows and arrows, carved prows of canoes, stone axes and clubs, cocoa-nuts, crabs, bits of fish, &c. were readily exchanged for old salmon tins, broken bottles, nails, strips of iron off the packing cases, matches, and other odds and ends. It was quite pitiful to see a bundle of elaborately carved and decorated arrow-heads handed over for the coloured label off a biscuit tin; a paddle covered with intricate carving exchanged for a bit of broken looking-glass; or, as I once witnessed, four or five lbs. weight of fish bartered for a dirty sheet of newspaper. It was necessary, however, to keep the prices low to start with; we soon found that the price of labour and other commodities rose quite quickly enough, for, with few requirements, the indolent savage has no inducement to do another stroke of work when once he has obtained what he has set his heart upon.

A PRIMITIVE ABORIGINAL

For those of us who wished to study the habits and manners of the natives, there was ample opportunity during the time devoted to building and equipping the base camp. We were surrounded day after day by an eager throng of savages, numerous enough to have swamped the camp had they been allowed to come within the fence, their natural reserve forgotten in the desire to trade. Endless questions forced themselves upon the mind, and, among others, the one as to whether these men were cannibals or not. The inhabitants of New Guinea and the islands to the east have justly earned a bad reputation with regard to cannibalism, but it is open to doubt whether all are tarred with the same brush, and whether every tribe is addicted to this practice. Opinions differ on this subject, but the fact must not be lost sight of that a tale of adventure loses nothing in the telling when set in a framework of ferocious cannibalism. The Mimika Papuan is, as yet, unaffected by the slow but sure advance of civilisation which is by degrees causing other races in this part of the world to abandon their savage customs, and remains a representative of the primitive aboriginal who inhabited the land when Australia, New Guinea, and the South Sea Islands formed one great continent.

Swayed by animal instincts, his intelligence is of a very low order; his physique, on the contrary, is magnificent, for in this climate it is a case of the survival of the fittest. It is in large part due to his reputation for treachery, ferocity, and cannibalism, which has deterred even the most enthusiastic of travellers, that he has existed undisturbed in a state of savagery, and that his country has remained unexplored and unmapped up to the present time.

UGLY RUMOURS

The history of New Guinea, and of the better known British and German sections in particular, teems with examples of Papuan cunning and brutality. Many are the accounts related of deeds of horror perpetrated upon traders, missionaries, gold-diggers, and castaways; many are the thrilling stories of men who have been treacherously murdered in sight of their friends, or who have mysteriously vanished never to return. The larger number of these reports are undoubtedly true, but others are just as surely exaggerated, for the lapse of time, repetition, and the natural desire to interest invariably causes the account of an event of this kind to become embellished with details which in all probability have no connection with what actually happened. The following tale, however, is undoubtedly true:

In the year 1858 the *St. Paul* was wrecked off the coast of British New Guinea, three hundred of the survivors, all Chinese, being marooned upon a small island near Rossel, from whence no escape was possible. They were here fed and fattened by the Papuans, and when required for consumption two or three at a time were taken off to the mainland, where they were boiled in a spring of hot water and then eaten. Dr. C. G. Seligmann throws some doubt upon the story, and maintains that they made rafts and sailed away to the east; but Mr. J. H. Murray, who in 1911 carefully inquired into the case, states that the Rossel Islanders owned up to the murder, and added that when they at length became surfeited with a diet of Chinamen they hawked the unfortunate survivors round the coast and sold them to the highest bidders, all except one who, from age or leanness, was unacceptable to even the least fastidious taste, and who was allowed to make his escape.

CANNIBALISM

Many examples can be quoted, for there is no doubt that cannibalism is common in many parts of the island, and is practised even in the more settled districts when it can be done without coming to the notice of the few white officials. The prevalence of this custom seems to be due, in the majority of cases, simply to the liking for human flesh; sometimes an enemy is eaten as an act of revenge, but there is no idea that in so doing the good qualities of the deceased are acquired. The Milne Bay tribes have been known to carry their liking for human flesh to still greater extremes, going so far as to dig up and devour freshly-buried corpses. Mr. Chalmers relates a story of how a Bonarua woman dug up her recently deceased husband to feed a friend. This act caused much indignation at the time, not so much because there was considered to be anything wrong in the eating of the flesh when exhumed, but because the men of the tribe disliked the idea of being devoured by their own wives.

In the majority of cases the victim is captured in battle or by stealth in revenge for some former injury—though it is not uncommon for organised raids to be made for the express purpose of obtaining heads as trophies and the bodies for food. If the captives are required for the latter purpose care is taken not to kill them on the field of battle, but to bind and bring them to the village of the conquerors there to be despatched; the way in which this is done varying in accordance with the customs of the different tribes. As a rule, the victim is finished off with a club, speared, or, after being wrapped in dry leaves, is bound to a tree and burnt to death. This latter method is not always successful, instances being on record of the victim bursting the half-burnt cords, and though dreadfully

CANNIBALISM

injured, effecting his escape. In the case of one tribe this gruesome custom is not without a touch of unconscious humour, the members claiming that human flesh is preferable to that of pig, as, no matter what quantity is eaten, the former never induces indigestion.

Whether or not the natives of the Mimika district are addicted to cannibalism it is impossible to say with certainty. Savage races have in many cases been accused of this practice on the flimsiest grounds, and unless the people own to it themselves, or unmistakable evidence of the fact, such as the finding of remains of a feast, charred human bones, or even fractured skulls is forthcoming, it is hardly just to write them all down as cannibals. The custom of filing the front teeth to a point, which is practised by so many tribes in different parts of the world, and often assumed by travellers to be a sign of cannibalism, is also general amongst the natives of the Mimika district; this, we believe, is done, however, because they consider that pointed teeth improve a man's appearance, and not with the idea of enabling them to tear human flesh with greater ease.

The natives, when questioned by us on the subject of cannibalism, at times showed abhorrence, and on other occasions appeared to be merely amused at the idea. Once or twice during our stay, when trouble was brewing with other villages and a fight seemed imminent, we asked them what punishment they would mete out to their enemies. With a wealth of most realistic gestures to explain their meaning, they replied that they would cut their throats, slice open their stomachs, or cut off their limbs. To our question: Would they eat them? "Yes! yes!" was the unhesitating reply. It seemed to us, however, that in

AN OPEN QUESTION

speaking thus, they were actuated more by bravado than by any real intention of celebrating their expected victory by a cannibalistic feast. Skulls suspended by string from the roof and blackened by smoke were to be seen in every hut. Sometimes the skull and larger bones of the body were kept together in woven grass bags; and there can be no doubt that these belonged to deceased relatives, for on several occasions we were able to witness the collection and storage of remains of natives who had died during our stay. Moreover, none of the skulls showed signs of fracture, as would have been the case had they been obtained in battle. Nor did we ever discover any charred bones or other traces of human feasts. To conclude this subject, while we were in the Mimika district we were unable to come to any definite conclusion as to the existence of cannibalism, and at that it must rest until further investigation settles the matter one way or another.

During the building of the base camp one of our chief difficulties was to protect the more perishable stores from the heavy rain which fell regularly at four o'clock every afternoon, and lasted for two or three hours. In spite of every care, much food was ruined owing to the tarpaulin coverings giving no better protection than would cotton handkerchiefs. Cramer and his Javanese were better off in this respect, as they were provided with ready-made mats and the bamboo framework for huts, and so had no difficulty in rapidly erecting dry and airy go-downs.

Our chief preoccupation at this time, however, was to find a route to the north, and the means of transporting our stores to the head of the river. How far off this lay, and in what direction, we were unable to

DIFFICULTIES OF PIONEERING

discover, for at this period, owing to our entire ignorance of the dialect, we had no means of questioning the natives and of obtaining the information we required. Furthermore, no one had ever been in this part of the country before, and there was no known basis on which to start the most elementary conversations.

The language of signs, however, possesses a rich vocabulary in which one soon becomes proficient when the necessities of life are required, and it was to this we turned in our desire to obtain river transport. Fortunately, the natives were for the time being wild on barter, and anxious not only to dispose of their superfluous trifles, but everything they possessed. In India the conversation of the native in the bazaars almost invariably turns upon the subject of pice or ghi, and similarly in this land of New Guinea the favourite topics of discussion are either flesh or the articles in daily use. Nevertheless, in spite of the lack of ideas and the limited vocabulary the difficulty experienced in dividing and classifying the words passes belief, for never twice would the same word be used for the same object. Slowly, and with infinite patience, a list of the commoner articles was compiled, our dictionary becoming gradually more complete as time went on. At this work Wollaston and Cramer showed the greatest aptitude, and on their shoulders at this period rested the principal burden of conversation. Not a single Javanese, soldier or convict, ever learnt a word during the whole time they remained in the country, but certain of the Gurkhas showed considerable ingenuity in making themselves understood. A few common Malay words were adopted by the Papuans, and these being easy to pronounce, the corresponding words in the native dialect ultimately fell into disuse.

LEARNING THE LANGUAGE

Many months were to elapse before we could make ourselves readily understood, even on the most ordinary topics, though it was a comparatively simple matter, and one only requiring patience to discover and learn the names of the various articles; verbs, adjectives, and adverbs are also necessary to build up a sentence, and great difficulty was experienced in extracting these from the string of guttural sounds, and in obtaining their correct meaning. The natives never seemed to grasp the fact that we desired to learn their language; at times they appeared delighted with our attempts at conversation, but more often they would listen with a bored and abstracted look. Even in their happiest moods it was found impossible to keep their attention fixed on one subject for many minutes at a time.

The purchase of canoes was quite a simple matter, the word "Koo" being quite sufficient to express what we required, whilst the article to be exchanged, when examined (but not touched) by the natives, determined the price. Before the end of the first week a fleet of ten of these craft had come into our possession.

It may not be out of place to describe these canoes more fully, if only to show that the Papuans must be possessed of greater energy and skill than they are usually credited with. Each canoe is from fifty to sixty feet long, or even more in length, and two to two and a half feet in width, and is fashioned from a single tree trunk. The bows slope gently away so as to form a convenient platform for the use of the pole, whilst in the stern, where the wood is of greater thickness, a cross beam two to three inches high is left, against which sand is heaped for use as a fireplace. Both bow and stern, and in many cases the sides also, are carved, and on festive occasions planks of wood,

A PAPUAN CANOE

elaborately fretworked, are fixed upright in the bows, whilst the sides are decorated with pendant fringes of grass. The crew consists of from six to twelve men, who paddle standing up, and it is a fine sight to see them drive their canoe through the water with powerful and properly-timed strokes. Europeans may wonder how the balance is preserved in what, at first sight, appears to be an exceedingly rickety and unseaworthy craft; but after a little practice this becomes a very simple matter.

Some idea may be formed as to the immense amount of labour required to build one of these canoes when it is understood that, for shaping and hollowing out the tree, the only tool available is the primitive stone axe, whilst more intricate parts are finished off and carved with sharpened shells and a small bit of iron, probably obtained by barter on the coast. Trees of suitable size and shape to be fashioned into a boat are few in number, and are as a rule only to be obtained from the innermost recesses of the forest. The felling is a laborious process, stone axes making but little impression on the hard wood. When levelled, the tree is cut to the correct length and roughly shaped, after which a track has to be cleared through the forest to the river bank and rollers laid along it. Finally, with the combined efforts of the whole population, the giant log is hauled and rocked along until the river is reached. The rough-hewn canoe is then towed to the village beach, where it is again hauled high and dry, and the weary task of shaping and hollowing commenced. When this is complete the sides are carved and the bottom burnt in order to keep out the boring insects which quickly invade all dead timber in this climate. Then comes the ceremony of launching and the trial run, during



Roughly shaping a canoe from a tree felled in the depth of the forest.



CANOE BUILDING

Levering the prepared log towards the river.

BUYING A FLEET

which the builders are easily distinguishable amongst the excited throng by their complacent and self-satisfied demeanour.

So keen were the natives on trading that, on our arrival, the pick of these boats could be purchased for a knife and a handkerchief apiece, but the demand was continuous, and the price steadily rose till an axe had to be given, and towards the end of our stay even the offer of two axes sometimes failed to clinch the bargain. Wakatimi was soon sold out, but the news spread, and before long other canoes were brought in for sale from the outlying coast villages.

We were fortunate in obtaining even this primitive means of transport, for had the people been hostile or adverse to selling, the expedition would have been indefinitely delayed at the base. Not one of our men was capable of constructing any kind of boat, and it was out of the question to attempt to cut a passage to the hills through the swampy and almost impenetrable forest zone. Nevertheless, we had to submit to a certain amount of delay, for when the question of transport had been satisfactorily settled the Mimika rose in flood, and as we had no launch to assist us, it was found impossible to make headway against the current.

I may here mention that no expedition should ever enter New Guinea, essentially a land of water transport, without at least one launch. We had none, and to this was due much loss of time, an endless amount of trying manual labour, and a certain proportion of the sickness amongst the coolies. The latter, accustomed to the slothful life of the East Indian Islands, were totally unfit to stand the daily strain of eight hours' heavy toil.

CHAPTER VI

A missing comrade—A fruitless search—A heavy blow—Unprofitable zeal—River navigation—Collecting a transport—The Mimika River—Difficult navigation—River flora—River fauna—Big game—Wallaby and cuscus—Insect pests—Snakes—A day of surprises—An extraordinary welcome

JANUARY 10 had been fixed upon as the date on which the first prospecting party was to set out, and all arrangements had been completed when an event occurred which cast a gloom over the camp for a long time to come.

The morning of the 9th opened with a cloudless sky which, as we knew only too well, would be succeeded by torrential rain in the afternoon. Mr. W. Stalker, a keen and successful collector, well known throughout Australasia and British Papua, had joined the expedition at Amboina. Familiar with jungle life and accustomed to wandering alone through untrodden paths, he left the camp unattended, passing out with the remark that he was going to do a little shooting in the vicinity. The usual downpour took place about three o'clock, but as we heard gunshots from time to time during the afternoon, no anxiety as to his absence was felt until darkness set in. It was then too late to render assistance or send out search parties, for the night was pitch dark and the lashing rain drowned every sound. No natives were at hand, and even had they been there to act as guides, it would have been impossible to follow any track in such a tremendous downpour. To move

A MISSING COMRADE

even fifty yards into the forest after dusk without losing one's bearings, new as we were to the country, was a task beyond our power. Through the long hours of the night we waited anxiously, expecting to hear a warning shot or some sound of his return, but, as hour after hour passed by and he did not arrive, we could only hope that he had found shelter in a native hut. Morning dawned, but there was still no sign of our companion.

Lieutenant Cramer at once organised his soldiers into small parties and despatched them in various directions to clear paths through the dense undergrowth and search every foot of the country on either side. Both Gurkhas and Europeans turned out, taking charge of a few coolies, a separate area of forest being allotted to each party, whilst the natives, now aware of what had happened, vanished by unknown paths to examine all most likely spots. One after another the search parties returned to camp, only to report that no trace was to be found of our missing comrade. Not a footprint, not a blazed tree trunk or a broken twig or even an expended cartridge could be seen, nothing which gave the slightest clue as to his movements.

Throughout this and the following day was the fruitless search continued, and it was not till the morning of the 12th, when two or three Papuans, who had gone out in their canoe to fish, found his body in a small creek less than half a mile from the camp, that we learnt how Stalker had met his fate. Along this very creek search parties had moved backwards and forwards several times, struggling through the tangled creepers which almost hid the water from view. Stalker must have wandered on into the jungle until overtaken by the storm and the gathering darkness, and then,

A HEAVY BLOW

having lost the direction of the camp, instead of settling down to spend the night as best he might until a search party arrived in the morning, must have tried to fight his way back. He had recently suffered from fever, and this, combined with the exhaustion resulting from his desperate efforts to escape from the entangling jungle and swamp, must have so weakened him that at last he was incapable of climbing out of the creek into which he had collapsed. He was buried the same day, beneath the shade of the one large tree left standing in the space cleared round the camp.

His grave was not to remain solitary for long: disease and accident were to claim only too many of our small community, and here, around the tree, were laid all who died during the months which followed.

Stalker's death was a blow which we felt for many a long day. Though he had not been with us for long, we knew that we had lost not only a capable and workmanlike collector, but also a comrade whom we could ill spare.

The *Nias*, having landed her stores, returned to Dobo to bring on those coolies for whom accommodation could not be found on the first trip. Whilst she was away, Cramer, Goodfellow and I took the opportunity of making a preliminary expedition towards the mountains, following the Mimika up-stream in the newly purchased canoes. Our first attempt can hardly be described as a success, for in two days we had not been able to proceed beyond a point six miles from camp, where a small branch stream flowed into the Mimika. Farther than this the Papuans refused to go, in spite of liberal offers of payment, and we were obliged to return to our base without having seen a hill or gained information of any value.

COLLECTING A TRANSPORT

In the meantime the enlisted coolies, one hundred in number, had arrived from Dobo. When in Amboina I had had a glimpse of these men, but disappointing though they looked, they were so disguised beneath a covering of black frock-coats, bowler hats, and brilliantly-coloured sarongs (a loose skirt), as to give no idea of their true value. In these same garments they now appeared in the tropical jungle of New Guinea, in the land of the naked savage; and a more miserable-looking crew I have never seen. The majority were of about sixteen years of age, but it was not so much this that shocked us, as that the maimed, the halt, and the blind of the East, seemed to have been specially selected for the work in hand. So bad were they, that it was at once realised that the majority would be more certain to hamper the advance than account for any work, and that the only thing to be done was to retain the least unsuitable and return the remainder to Amboina. The hundred were drawn up in line, and the medical officers, Wollaston and Marshall, proceeded to cast out the radically unfit. Fifty were so disposed of, and without delay packed into the boats and sent on board the *Nias*, to be taken back to their homes; I may add, at no slight expense. I mention this not in a cavilling spirit, but as a warning as to how coolie transport should not be collected by future expeditions, and also in simple fairness to the members as a reason why the advance into the mountains was so long delayed.

The fifty coolies we had retained were entirely ignorant of any form of river work, and had such strong objections to entering the frail canoes, that the boats had to be tied together in pairs before they could be persuaded to take their places. The result

RIVER NAVIGATION

of this compromise was that, however hard the crews paddled, four or five miles was the utmost distance that could be covered from sunrise to dusk. With a dozen of these gaily dressed Malays and a few fresh natives a second attempt was made to explore the Mimika, Shortridge in this instance taking the place of Cramer. The fleet looked quite imposing as it set forth, but on the second day out half the Papuans deserted, and the remainder on the day following, so that our men, now that the work was thrown entirely upon their shoulders, were compelled to take their first serious lesson in river navigation. To give them their due, bad as they were at the start, many of the imported coolies quickly mastered the rudiments of successful river travel and, as the months went by, those who survived the strain of this arduous and continuous labour, became nearly as proficient in paddling as the Papuans themselves.

The exploration of an unknown river is always a matter of interest, and the Mimika, however much we grew to dislike the sight of the monotonous waters as the novelty wore off, on this, the pioneer journey, was full of fascinating charm.

Of the many rivers in this part of the country, the Mimika is one of the smallest ; in fact, as we had already discovered on our way up from the sea, it is but a tributary of the Watuka, and rises in the low foot-hills, twenty miles or more short of the main range, and sixty to seventy miles west of Carstensz, in which mountain we had hoped its source would be found. The size of its mouth, out of all proportion to the amount of water entering the sea, had deceived the Dutch three years previously, and had induced Goodfellow, on the strength of their report, to adopt it as our line of advance to the interior, instead of the large and navigable Utkwa,

DIFFICULT NAVIGATION

lying many miles to the east. It lies at a lower altitude than any of the other streams flowing to the south, consequently its current is more sluggish, and the turns and twists more numerous. In many places the river doubles back upon itself to such an extent that it is possible to stand on a narrow neck of land with the river flowing a few yards away on either hand, whilst to bring the canoe from one place to the other, twenty to thirty minutes' hard paddling is required. In addition to this the flow of water is most irregular and entirely dependent on the local rainfall, being unaffected in any way by what falls on the highlands of the main range. One day a swirling torrent, the next the river may have dwindled to the veriest trickle, forming nothing but a series of pools joined by shallow runs. Under ordinary conditions a launch can be navigated for a distance of ten or twelve miles above Wakatimi, and when the water is exceptionally high, as much as twenty to twenty-five miles; in the latter case, however, there is always the risk of the waters suddenly falling and leaving the boat stranded high and dry, without a prospect of release until a fresh flood comes down. A more difficult river upon which to maintain a continuous service of transport canoes it is impossible to imagine, for when in flood poling of the boats is out of the question, as no bottom can be found and paddles are useless to force a way against the current, whilst, if the water is low, the heavily-laden boats have to be hauled along by main force, over mud and gravel slopes, rocked over huge trunks of trees, or forced beneath masses of tangled foliage. When, as the result of continuous rainfall, the flood is on a large scale, the whole of the surrounding country is inundated to such an extent that no ground remains exposed upon which to

RIVER FLORA

camp. Nothing is to be seen but the forest on either hand and the immediate stretch of water in front and behind, nor does the traveller ever catch a glimpse of the mountains to which he knows he is drawing nearer day by day.

Upon the dank and mud-covered banks flourishes the most dense and luxuriant vegetation imaginable, containing specimens of almost every tree and shrub to be found in the tropics—*Pandanus*, *Artocarpus*, *Eriodendron*, *Albizzia moluccana*—*Ficus* of many varieties, sago, *Octomoles moluccana*, and all bound into a tangled impenetrable mass by innumerable rattans and creepers. Although relieved now and again by a blaze of the scarlet *Mucana pruriens*, the effect of this sombre bank of dark green is anything but an inducement to the traveller to explore the swampy land hidden below and beyond.

The great difficulty experienced in transporting stores over the six stages between the base camp and the up-river station necessitated a regular service of canoe convoys being maintained on the Mimika throughout our stay in New Guinea, and the deadly monotony of the journey made this the most unpopular of all the duties. Still there was always something of interest to be observed in the animal life which infested this waterway, serving to relieve the mind from the perpetual rhythm of the paddles, and giving one something else to watch besides the erratic movements of the polers balancing themselves in the bows. Alligators, though seldom of large size, bask on the sandbanks at the bends of the river; they are never aggressive, and are very different in this respect from those to be found in the rivers of Borneo and in other parts of New Guinea. There is no doubt

RIVER FAUNA

that some obtain to a great size. One immense creature was seen on various occasions opposite Wakatimi, its appearance stirring the hunters to life, but rousing no fear amongst the children splashing about in the water; the latter, in fact, looked upon it as giving an additional zest to their games. Iguanas, large, hideous and uncouth, dart from cover to cover; occasionally a turtle flops lazily from the mud into the water; and perhaps, a few yards farther on, a poisonous water-snake is seen wriggling his way along the surface of the stream to the shady bank where safety is to be found. It is impossible to resist the temptation of striking at these reptiles, for it looks as if one blow of the paddle would kill them instantly. As a matter of fact it is almost impossible to kill them when swimming, and it is better to leave them in peace when thus found, for when struck they make straight for the canoe, and with a particularly rapid rush try to clamber up the sides. A poisonous snake in a closely-packed canoe is not a pleasant companion.

At any moment on rounding a bend one may see a pair of crown pigeons (goura), each as large as a small turkey, their grey-blue crests opening and closing and their orange-red eyes glittering with anxiety. They are ground feeders and eat anything, even crabs. It is one of the most beautiful birds in existence, one of the most foolish, and, from the point of view of the hungry traveller, one of the most valuable. A flash of blue and a kingfisher darts past, a vision of exquisite turquoise; some species as small as a tit, others as large as a thrush. Overhead pass a pair of hornbills, always suspicious and always noisy, looking every moment as if they would overbalance, so heavy and cumbersome are their heads. These birds invariably move in pairs,

BIG GAME

the black-necked female in front, the yellow-necked male following, except in the breeding season, when the hen is imprisoned in some hole in a tree and there detained during the egg-hatching period by the male, who, distrusting his mate's sincerity in her work, plasters up the aperture with mud, leaving but a small opening through which he administers food to his hungry spouse. The whirring clouds of lorries and chattering parrots, the shrill cries of the gorgeous birds of paradise, and the twitterings of endless other species of birds, lend a charm to water travel which would otherwise be insupportable in its monotony.

Now and again bigger game is encountered. Pig, both brown and black in colour, imported into the land centuries ago as village swine, are to be found throughout the length and breadth of the country running in a wild state, and strenuously hunted by the savages; the cassowary, the great black ostrich-like bird with a head and neck of many colours; the night-loving cuscus, creeping slowly from bough to bough, brown, yellow, white, and all colours of the rainbow—all good for food from the point of view of the native, and all very shy, retreating to the innermost recesses of the forest on the first sign of danger. Sometimes a tree will be seen laden with flying foxes, hanging head downwards, and the females with their young fixed firmly to their breasts; horrid, unnatural-looking creatures with their slow heavy flight, claws, and beady eyes.

Then there is the wallaby, a small prototype of the kangaroo. Twice were they shot on the river and brought into camp, and when being skinned were found to have young in their pouches. One of these babies was over 10 inches in length, but too small to

WALLABY AND CUSCUS

be brought up by hand. He was perfectly formed and uninjured, but would never have lived without the warmth his mother could always give him. It was pitiable to see the little creature when placed on the ground, make for his dead mother and at once worry his way into her pouch and out of sight. The other was no bigger than a small walnut, and yet had been born and was to be developed by the milk from the teats which lie inside the pouch. It is a pity we never secured one of these animals alive and uninjured, of an age at which there was a good chance of its being brought up alive, as with their soft fur, large brown eyes and gentle disposition they would certainly make the pleasantest of pets. Very different was it with the cuscus (phalanger) captured. Nastier little animals it is impossible to imagine. Snappish, with jaws of steel and claws like fish-hooks, they bite whenever given a chance, and tear one's skin to bits. They would never stay on the ground for a moment, making for the first pole or tree they saw, from which they had to be forcibly dislodged. All escaped sooner or later, either forcing the bars of their cages or eating their way through, and no one showed undue sorrow at their departure.

There is, however, another and more disagreeable side to life on the river which almost outweighs the pleasures to be derived from the sight of birds and mammals. Over the dark and stagnant pools, on the mudbanks and in the forest, hover clouds of mosquitoes, whose ruling instinct, as we learnt to our cost, is the quest for human blood. Fortunately for man, the anopheles mosquito, the carrier of the malarial germ, exists only in moderate numbers, otherwise life would be quite insupportable. As it is, the stings and irrita-

INSECT PESTS

tions of his brethren are sufficiently maddening to make existence burdensome, though some relief is to be obtained when halted by clearing the scrub in the near vicinity of the camp, or at night by seeking refuge beneath a mosquito-net.

In addition to these pests, leeches dangle from every leaf and branch, immediately attaching themselves to any part of the body with which they come in contact, and, as I verily believe, dropping on the wayfarer when passing beneath, attracted merely by the scent of blood. Their bites often result in nasty sores which, in this damp climate, do not readily respond to doctoring, and sometimes become so bad as to necessitate the sufferer being invalided out of the country. So insidious is the attack of these hateful creatures that one is often unaware of their presence till a stream of blood welling through the clothing shows that one of them has been sucking blood from a vein, in which case a bandage must be applied to stop the bleeding.

The worst of all places for them to attach themselves is the eyeball. So light and unsuspected is their attack that on several occasions two or three crept between the eyelids without their presence being detected, and the first intimation received was the blurring of the vision. It is almost better when this happens to let them have their fill of blood and drop off when satiated, than to remove them by force, for less damage is done thereby to the flesh, but in either case very severe inflammation of the eyes is the result.

The worst of all these insect plagues, however, are the bluebottles, which are of immense size. What they live on is a mystery, but they exist in millions,

SNAKES

attacking with ferocity any food left uncovered for a second, and swarming in clouds upon any blanket or discarded article of clothing, absorbed in the one idea of finding a suitable spot on which to deposit their eggs. The swarms appear to increase in numbers towards sundown, when the hunt for a breeding-place reaches its climax, and if any success has been met with, the ova become grubs before the morning, a never-to-be-forgotten reminder of what a moment's forgetfulness means.

Ticks are fairly plentiful, but never quite so objectionable as a certain small caterpillar which delights to flop on to one's body from the roof, there to eject such a pungent odour of formalin as to call for the use of soap and much scrubbing before it can be removed.

Shall I speak of the large crickets which eat one's clothes to shreds in a night; or of the minute bees which crawl in myriads over one's skin when heated after exercise? But no; the list is long enough, and the memory of these pests recalls too many unpleasant reminiscences to incline one to dwell on their objectionable habits. A nice land indeed!

To leave the insects alone and to turn to the rather less obnoxious inhabitants of the forest, snakes are unpleasantly numerous, even for a collector desirous of enriching his reptile collection. Many are deadly, but amongst these must not be included the largest, the python. The finest python killed by us only measured fourteen feet, and though much greater ones doubtless exist in the island, owing to the scarcity of large mammals it is not likely that they ever approach in size those to be found in Borneo. Numerous as were the poisonous varieties of snakes, there was not one single case of snake-bite amongst our followers

THE EARLY MORNING

during our stay in the country, although the men invariably moved about with bare feet. This is all the more remarkable, as the favourite sleeping-places of these reptiles are paths made and frequented by man, and hardly a day passes without two or three being seen and killed on the tracks in the vicinity of the camp. The natives showed extraordinary fearlessness in catching the poisonous specimens, grasping them behind the head before they had time to strike, severing the head from the body with a split piece of cane, and popping the body into their bags for the evening meal.

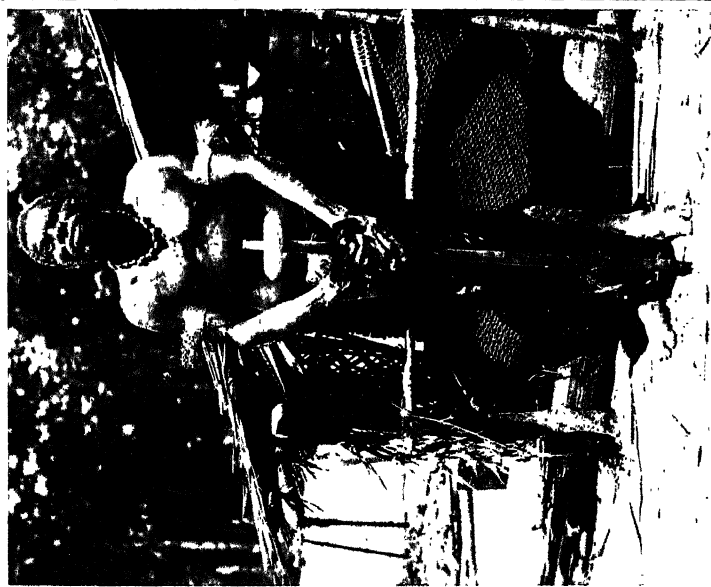
It was in the early morning, when the sun's rays first caught the tops of the trees that life was most enjoyable; then was the time for the forest to burst forth with the music of the jungle; then was the sky free of cloud, while whisps of mist hung over the water and the forest was still dark with the lingering shadows of the night. Far rosier did life at that hour appear than in the late hours of the afternoon when the fatigue of the day's work was still upon one, when the rain poured down, driven hither and thither by the eddying gusts of wind, and when, in addition, the discomfort of unlightable fires and sodden baggage tended to make one feel despondent and depressed. Still, it is impossible to have the sweet without the bitter, and this our first trip into the unknown interior will remain for ever stamped in our memories.

On the fourth and fifth day out we struggled along as best we could, each one taking his turn with pole or paddle, heaving the boats over sunken logs and shoals, or carrying them bodily round the worst obstacles. This, however, was the last day during which we were to labour without help or guidance, for early the next morning, when we were at breakfast, a canoe-load of



AN ELDERLY WIDOW

In her mourning weeds of matting and wearing the poke bonnet.



AT PARIMAU

The headman with his stone club.

A DAY OF SURPRISES

Papuans suddenly swept round a bend, and in a moment had grounded their boat close at hand. Though noticeably nervous, it was evident that they had been warned of our approach, and had grasped the fact that our intentions were not hostile, for, after a little coaxing, they settled down by our fires and joined in the meal, all the time urging us to make haste on the next stage.

The morning was to be full of surprises. Two miles farther on, when we were still thinking how infinitely pleasanter it was to be poled up the river than to have to do the work oneself, a band of women, whose sole coverings were girdles of leaves plucked from the undergrowth, burst forth from the forest, and raced over a mud flat towards us, uttering weird and discordant cries. Choosing the muddiest spot, they flung themselves headlong into the filth, and, still maintaining the chorus of wild yells, rolled over and over, smearing the slime over their faces and into their hair. Having made themselves perfectly repulsive to our eyes, they fell a-dancing, evidently with the object of captivating our affections, but just as they were reaching the highest pitch of excitement, a signal from the men brought them to a dead stop. Complete silence ensued, and then all, men and women alike, standing quite still, placed their hands over their eyes and burst into tears. Such agonised weeping and such heart-breaking wails it has never been my lot to listen to before or since. One moment there would be a succession of gasping sobs, to be followed by a series of ear-piercing shrieks, the bodily and mental exertion being so great as to cause the tears to pour down their cheeks, and great beads of perspiration to stand out on their bodies.

AN EXTRAORDINARY WELCOME

Amazed at this uncomplimentary outburst of sorrow on our first meeting with the feminine section of whatever tribe it was we were approaching, we tried, with consoling phrases and reassuring gestures, to persuade the boatmen to again take to their work in the canoes, if only to carry us out of earshot of this pandemonium. We might as well not have been there for all the attention they paid to our entreaties, and the grief, instead of wearing itself out, only seemed to gain in vigour as the minutes passed by. Suddenly the demonstration ceased. Without a word of excuse or of explanation, without even troubling to wipe the tears from their cheeks, they seized their poles and started the canoes afresh, with a demeanour as peaceful and unconcerned as if what they had just been doing was the most natural and ordinary thing possible. The women washed themselves, removed the leaves, and replaced the bark cloth, and, once again rational beings, entered two huts, the first habitations we had seen since leaving Wakatimi. It was a great relief to find that the women were to accompany us no farther, for one dose of the astonishing form of welcome which we had just witnessed was quite enough for the day, and as long as they were with us there was no knowing when the spirit might move them to repeat the experiment.¹

¹ The shedding of tears in welcome has been reported among the natives of America, as also with the Andamanese and other negroid races.

CHAPTER VII

Parimau—Single combat—Treatment of wives—Towards the hills—Forest growth—Woodcraft—The Kaparé—Preparing for an attack—Negotiating—Panic—Wild scenery—Difficulties with coolies—Friendly villages—Difficult canoeing—Rain—Short rations

ON the seventh day after leaving Wakatimi we reached Parimau, a collection of some twenty-five huts, and the most important place on the upper reaches of the Mimika River. The village was situated in a clearing of about an acre in extent, and, as we thought at the time, on a spot safe from all possible chance of inundation. I say "was situated," for unfortunately both land and village were swept out of existence by floods later on in the year. On the beach our camp was pitched and a house erected. This was only a temporary measure, for, as soon as a clearing had been made on the opposite or right bank of the river, other and more substantial huts were run up by the Gurkhas well above both the native village and the ordinary level of the river.

Whilst we remained here fresh parties of natives arrived daily from the east to inspect the new-comers. The women, very shy and diffident, were led round by the hand by their Parimau friends, who from the moment of our arrival had come to look upon us as their own personal property. The new-comers brought their own food along with them, as well as presents for their hosts, so at first were received with open arms. There was much kissing amongst the men, but little notice

SINGLE COMBAT

taken of the women, who seemed quite content to stand aside until their lords and masters deigned to notice them.

No empty huts being available, this influx led to much overcrowding, with the result that brawls and fights were continually breaking out, and blood was freely shed on many occasions. The popular weapon was the stone club, made out of coral, limestone, or sandstone rock, and with this dangerous instrument the most violent blows were given and received, though every care was taken to avoid striking the head. When a single combat was in progress a certain amount of etiquette was shown, each combatant in turn striking his or her opponent a resounding blow across the back ; no flinching was allowed, and the fight continued till one or the other had had enough. During the fight an appalling din prevailed, both combatants and spectators venting their feelings in howls of rage and yells of abuse. The more peaceably inclined would sometimes terminate these fights by surrounding the actors so closely as to put an end to further hostilities. Now and again a woman (never a man) would be felled to the ground when a bad shot was made and the head struck by accident, but when such an event occurred no one considered it his or her business to proffer aid, and there the unfortunate woman would remain insensible and streaming with blood until she had recovered sufficiently to crawl to her hut.

Both up- and down-river natives treat their wives with the greatest brutality. This consistent ill-treatment seemed to us all the more extraordinary, for, apart from any question of affection, one would have thought that it was the husband's interest to protect and care for his breadwinner—in short, his slave, on

TREATMENT OF WIVES

whom he was dependent for every comfort. Such was not the case. For instance, from the camp at Wakatimi, Wollaston on one occasion witnessed the attempted drowning of a woman who had in some way incurred the anger of her husband. In full view of all who cared to look, the young wife was dragged by the husband and his elder wife to the water's edge and there thrown in. Despite her struggles, a small fishing-net, bound to a circle of bamboo, was flung over her, and upon the ends of this the two seated themselves, effectively keeping the girl under water. She would certainly have been drowned had not Wollaston shouted across, and, seizing his rifle, threatened to shoot, upon which the two executioners unwillingly released their victim. The wretched creature dragged herself on to the bank, and there remained in a state of collapse until she had sufficiently recovered to crawl back to her happy home. Whilst this drama was being enacted none of the savages paid the slightest attention or raised a finger to prevent the attempted murder, though it was being carried out in full view of the whole village.

During the intervals when the natives of Parimau and their guests were not engaged in brawling, we did our best to make them understand that we were anxious to enter the hills, of which, up to the present, we had gained no information. As soon as they had grasped what was required, numerous volunteers stepped forward ready to show the way and carry the baggage.

Accompanied by two Gurkhas and a dozen Papuans, I set forth on the 26th January, following the one and only way said to exist. The track was in an abominable condition, so badly defined and so obstructed with cacti that the greater part of the day was spent in

FOREST GROWTH

cutting a way through the four miles of forest that lay between us and the first large river encountered.

It is quite impossible for anyone who has not visited these parts of New Guinea to realise the density of the forest growth. The vegetation, through which only the scantiest glimpses of the sky can be obtained, appears to form as it were two great horizontal strata. The first comprises the giant trees whose topmost boughs are one hundred and fifty feet or more above the ground; the other, the bushes, shrubs, and trees of lesser growth, which never attain a greater height than thirty to forty feet. Such is the richness of the soil that not one square foot remains untenanted, and the never-ending struggle to reach upwards towards the longed-for light goes on silently and relentlessly. Creepers and parasites in endless variety cling to every stem, slowly but surely throttling their hosts. From tree to tree their tentacles stretch out, seizing on to the first projecting branch and limb, and forming such a close and tangled mass that the dead and dying giants of the forest are prevented from falling to the ground.

Through this boundless labyrinth of tangled growth the native is obliged to force his way when once he has left the safe and familiar river banks. The experience of countless centuries has taught him to dread the treacherous paths and deceptive openings into which many of his ancestors must have strayed and perished; and now, when in the forest, he never omits to form a trail by half breaking the young shoots on either hand as he goes along. The stems thus treated do not die, and in their reversed position faintly mark the way for many years. This is a practice which the white men should invariably adopt when moving in a tropical

THE KAPARÉ

forest without knife or kukrie, for he can never tell when his life may depend upon the distinctness of the trail he leaves behind him. The various devices recommended in the books of one's childhood, and it may be added in learned books as well, whereby the traveller is enabled to recover a lost trail or regain the right direction, are here of no avail. For instance, moss does not grow more on one side of a tree-trunk than on the other; trees do not lean away from the prevailing wind, nor is the position of the sun a guide, for it is seldom visible. In fact the traveller has nothing to rely upon but the compass or a local guide, and even the latter is often at fault. Hopeless indeed does the outlook appear when the wanderer, hedged in by a wall of scrub and creeper which limits his vision to a distance of ten or twelve yards, realises that he has lost his bearings; when the vastness of the forest seems to press upon him, and there is no sound to be heard but the drip, drip of the water-laden trees, and the bubbling of the stinking bog under foot. His only chance of escape is to find a stream and follow it down till it joins a main river.

But to return from these cheerful considerations to our journey from Parimau. It was late in the afternoon when we debouched upon the stony bed of a great river, known to our guides as the Kaparé. From this point a grand view of the mountains was obtained, stretching from a point due north of us till they faded away in the dull haze to the west. The natives insisted upon camping at once, for fishing grounds, and consequently food, were close at hand. A sufficient supply of fish having been obtained, we turned in early to sleep. Nothing could have been more peaceful than the quiet, closely-packed camp, the

PREPARING FOR AN ATTACK

two tents and the two flimsy shelters of the Papuans forming a small square.

It must have been nearly an hour after we had turned into our blankets that I was suddenly awakened by the sound of men running, and springing up was just in time to catch a fleeting glimpse of the natives tumbling out of their huts and bolting into the forest. A Gurkha, who had awakened at the same time, instinctively rushed at and attempted to seize the last two, but the slippery body of a naked Papuan is not an easy thing to hold, and with a fierce wrench of the arm they broke loose and vanished like the rest. Not a man remained.

Our first thought was for our own safety.

If the natives contemplated an attack we were in a bad position to meet it, and too close to the jungle, so picking up the guns and blankets, and leaving everything else as it was, we moved without loss of time out into the open river bed, and there awaited the upshot of this peculiar affair. The forest was as silent as the grave.

For an hour we remained on the *qui vive* and ready for any emergency, turning over in our minds every incident of the afternoon, to find some reason for this desertion, but in vain. Whither had they vanished? Were they stalking us, or were they still fleeing?

Still not a sound broke the silence of the forest.

The night became chilly and the stones uncomfortably hard, so eventually it was decided that one man should keep a look-out while the remainder slept. An uncomfortable hour went slowly by, for neither the position nor the occasion were conducive to sound slumber. Fatigue at length obtained the mastery, and I passed into the land of dreams; but hardly had I dosed off

NEGOTIATING

than a light touch on the shoulder by the sentry drew my attention to numerous dark spots barely distinguishable in the reeds along the river banks, spots which certainly had not been there an hour before.

Straining our eyes to the utmost it was impossible for several minutes to make out what they were, but when one vanished, it was very easy to guess that each of the other black spots carried two eyes, and that our savage friends were spying out the land.

A forward movement on our part now seemed to be called for, so standing up I gave a loud hail. The result was the instantaneous disappearance of all the spots. So far so good; it had had some effect, and as the result of further calls, in five minutes' time a spot again appeared, to be followed shortly afterwards by a larger patch denoting the rising of a body. Then came an answering hail, and in such an encouraging tone that I felt constrained to approach. The figure did likewise, and so we advanced, first one then the other, both sides meanwhile keeping up a flow of talk in our respective languages. As we drew near I recognised the approaching figure to be that of a man who had on one or two occasions gone out shooting with me, and whom, in my present state of mind, I promptly started to abuse. He was quite ready to discuss matters, but as neither of us understood the other, and as each seemed to have some grievance, the only sensible course to follow was to forget the past and again be friends. Quickly both sides collected on the debating-ground and tried to relieve their feelings in a babel of talk, the Papuans ending up with the first few bars of the terrible wailing with which we had been assailed when coming up the Mimika. This, so close at hand, and in the dead of night, was unbearable, and had to

PANIC

be stopped, much to their disappointment. Everything having been satisfactorily arranged, we moved back to the deserted camp and there passed the remainder of the night in peace and quiet, the natives in their huts and we in our tents.

As time went on and we got to know the Papuans better, it was realised that these sudden desertions, which sometimes amount to a panic-stricken rush, are more probably due to fear of some kind than to hostile motives, or any desire to place the stranger in an awkward position. Desertions occurred on several other occasions, but this was the only time that any anxiety was felt as to the possibility of an attack being made. To this day I have not been able to find out what was in their minds or what caused the sudden flight to the jungle. Had it taken place in the daytime, or had they gone off in a stealthy manner, it might have been explained, but to do so in the dead of night, when the camp is peacefully asleep, can only be accounted for by a sudden grip of superstitious fear.

Though little affected by the occurrences of the past night, the Papuans refused to continue the march upstream, the next day being spent in reconnoitring the country to the north.

Fifteen miles distant lay a saddle-backed mountain about 7500 feet high, with almost precipitous sides and knife-edged ridges running in all directions, the whole covered with the densest vegetation. To the west stretched other wild and rugged hills, divided from the first mountain by the gorge of the Kaparé. Far up the valley glimpses were obtained of an immense precipice running east and west, a sheer perpendicular wall of rock, bare of vegetation and black in colour.

DIFFICULTIES WITH COOLIES

As no more information was to be obtained by waiting here under these conditions, I returned to Parimau and reported to Goodfellow what had been found, and discussed with him the chances of finding a way into the hills by this route. As a result it was decided to send a reconnoitring party from Wakatimi up the Kaparé, the mouth of which had been passed on our way from the sea, with the object of discovering whether that river was navigable for canoes up to the point where I had come out on its banks, and whether it offered many advantages over the Mimika as a permanent line of advance inland.

Goodfellow accordingly returned to Wakatimi on 9th February in order to despatch this party and to explain to those at the base camp how matters stood, while I again crossed to the Kaparé to prepare a path towards the mountains and to await the arrival of the exploring party, should they be able to work a way up the new river. Unfortunately, on reaching Wakatimi, he learnt that the whole of the imported coolies, whom he had engaged for a period of six weeks only, had, on the arrival of a visiting ship, insisted upon the fulfilment of the letter of the law, and demanded to be returned at once to their homes. The few remaining carriers who, owing to their having been detained up the river, found themselves too late to depart by the steamer, were now the only men left to carry on the work. By the next relief ship Goodfellow sailed for Amboina, in order to recruit a fresh batch of men from the nearer islands of the Archipelago, and with him went the remainder of the men, not one of whom could be induced by any amount of bribes to stay a day over the contract time.

Whilst Goodfellow was away on this business,

FRIENDLY VILLAGERS

Marshall, Wollaston, and Cramer, with a scratch crew of soldiers, convicts, and Papuans, started out on their exploration of the Kaparé. Within two miles of the junction with the Mimika the vegetation changed from the dense jungle of mangrove trees to flourishing sago swamps and banana plantations. The first night was spent at Obota, a large village of not less than three hundred inhabitants, who were quite friendly and well-disposed to the strangers. Like the villagers previously encountered, they were bent upon trade, and delighted to find that they had here a good market for their tobacco and bananas, which grew abundantly in the locality. In one of the houses, amongst other treasures, an old brass gong was displayed, and a most incongruous object it appeared, being the one product of civilisation which had as yet arrived at this uncivilised spot.

The Obota was then in flood, and so ignorant were the soldiers of river work that all attempts to make further progress against the strong current failed ignominiously, the canoes careering madly from bank to bank, and finally coming to rest in a backwater at a point considerably lower down-stream than where they started. The natives, fearing that a disaster might occur, which would have been greatly to their disadvantage, quickly came to the rescue, and after a good deal of discussion consented to accompany the party if two other canoes were engaged and the loads in the original ones reduced. These men proved themselves excellent workers, and remained throughout the journey, becoming great friends with our men. Having circumvented the rapids just above Obota, by following a winding jungle creek which joined the main river again three hundred yards farther up, it was found necessary to hug the banks closely in order to avoid the main

RAIN

force of the current. Two miles beyond this point the Kaparé began to widen, forming a perfect river for navigation, and admirably suited for a launch. The river here bifurcated, the larger branch being known at its mouth as the Periepia. As further progress was made the Kaparé, flowing between low and swampy banks infested with mosquitoes, continued to widen until it was the general opinion that no difficulty would be experienced in penetrating direct into the mountains. On the sixth day out, however, these hopes were shattered, any further advance upstream being absolutely barred by a combination of shoals and rapids. They were then only five miles from the point where I was awaiting them, but there was nothing for it but to abandon this line of advance and to return dejected to Wakatimi.

During the time this journey was in progress I, together with three Gurkhas, had moved another three miles up the Kaparé, a fishing party of natives having been pressed into the work of carrying the loads, though not accomplished without much bribery and endless coaxing. Beyond this point they refused to move another step, so a rough but substantial hut was built ready to take any stores which might arrive in the near future, four miles of road cleared, and a certain amount of survey work completed. This was much hindered by the daily downfall of rain, which not only flooded the camping ground but rendered the river and brooks unfordable for hours at a time.

By converting the empty map tin into a rain gauge I was enabled to calculate fairly accurately the average rainfall for twenty-four hours. The heaviest registered was $4\frac{1}{2}$ inches, the lightest $1\frac{1}{2}$ inches, and the average for two weeks showed $2\frac{1}{2}$ inches per day; this, be it

SHORT RATIONS

remembered, was one of the dry seasons of the year! Day after day we pegged away at the work, always hoping that the next morning we should hear the welcome sound of the approach either of the party moving up the Kaparé, or of another relief expedition from Parimau, until at length the stores came to an end. A man despatched to Parimau, where Shortridge was still encamped, returned with the information that no boat or supplies had arrived from Wakatimi, and that Shortridge himself was in an equally serious plight from want of food. Following close behind came Shortridge himself carrying his last three days' rations, and which we eked out as long as possible, as it is more economical to feed two men together than when separated.

As there was nothing to gain by returning to Parimau, even had we wished to do so, in its present depleted condition, and as no carriers were available, we were forced to subsist entirely upon what the forest could provide, and taking it all together a poorer country I have never yet found. Of edible vegetable matter there was none, and of flesh we could obtain nothing but the hornbill. These birds consist of head and neck, and the smallest and toughest of bodies imaginable, but we blessed their existence all the same. Crown pigeons, which would have provided a good square meal, must have known that we were on the warpath, for only a couple were to be seen, and these would certainly have been bagged had not the excitement of the stalk and the knowledge that our supper depended upon a successful shot caused the premature discharge of the gun. Nevertheless, though food was scarce and life not altogether a bed of roses, there was plenty of hard work, which made time pass quickly

SHORT RATIONS

and enabled us to forget the material privations of our situation. During this hungry period another hunting party of Papuans arrived upon the scene, and every blandishment was employed to persuade them to assist in moving the camp to fresh pastures where animal life was more plentiful. It was during one of these attempts at an advance that a most valuable discovery was made.

CHAPTER VIII

Unpleasant work—Chasing pygmies—Captured pygmies—Pygmy equipment—Primitive methods—Pygmy history—Penetrating the mountains—Stalking human game—Brave pygmies—Land of the pygmies—Attempts to penetrate the country—The home of the pygmies—Fresh line of advance

IN spite of all our efforts nothing would induce the Papuans to transport the camp a few miles further up-stream, and matters reached such an *impasse* that I was finally forced to adopt the rôle of carrier myself, hoping by this means that they might be shamed into shouldering the loads. It was not an edifying sight, the white man carrying the burden and the savages following in a sullen line behind, and the physical effort of bearing a heavy load through the steaming jungle made the experiment a distinctly unpleasant one; it had the effect, however, of bringing the whole party along, for they were consumed with curiosity as to where I would go and what I would do.

In this uncomfortable manner we were slowly making our way up the river bed when, with a guttural cry of "Wah," the savage immediately following me dashed past at full speed. The yell acted like magic. The sulky line was in a moment galvanised into life, and the men who had been so tired that it seemed to be an effort to place one foot before the other, taking up the cry, raced off in pursuit over the stones and into the jungle. As this new move at any rate promised excitement and the pleasures of the chase, I

CHASING PYGMIES

dropped my load, and with visions of pork before my eyes girded up my loins and pounded along in rear. Partly influenced by the fact that the savages were rapidly leaving me behind, I cast around in an attempt to find the animal's spoor before entering the jungle. What was my surprise to discover men's footprints instead of the marks of pig as I had expected, and to see the sand torn up where they had evidently turned and bolted for cover. This being a form of sport in which I did not desire to take part, I sat down to await events and to listen to the sounds of the chase as it passed away into the forest.

Who could the enemy be, and why this sudden show of hostility? Could it be some men of a tribe with whom our friendly natives had been at war, or possibly some delinquent or runaway of their own people? I was not to be left long in doubt. Before many minutes had passed the excited voices of the men could be heard as they drew near, and then from the forest there emerged a confused mass of savages, in the centre of which, held firmly by the arms and driven forward by sundry proddings behind, were two small naked men differing in appearance from any we had hitherto seen. They were taking their capture in anything but a kindly spirit, and despite the fact that they were outnumbered by five to one, put up sufficient fight to engage the united attentions of their big framed brethren.

When the party reached the place where I stood the captives were released, but as they had by then arrived at the stage when fear and exhaustion renders vigorous action an impossibility, they could do no more than maintain their position on the tree-trunk upon which they were placed and with their eyes glued

PYGMY EQUIPMENT

to the ground. From their point of view there was good reason to fear the worst. Were they not in the hands of their enemies, and in the presence of a man of another pale-faced race of whose existence they had up to now been in complete ignorance? In addition to this, had they not been deprived of their bows and arrows, their grass helmets and their bags of precious odds and ends, all of which were now being handed round before their eyes and distributed piece by piece? As a preliminary to any friendly advances I insisted first of all upon the stolen articles, even down to the bows and arrows, being collected and returned to their rightful owners, much to the disgust of the captors, who evidently looked upon the loot as their just reward. Reassured by this unexpected treatment the prisoners quickly gained their wits, and went so far as to allow a faint smile to spread across their features when a few bright-coloured beads were placed in their grimy paws. The capture was of such absorbing interest that we decided to postpone any further advance till the next day, and returning to the old camp were enabled to examine our prisoners more closely.

They were of good proportions, strong and wiry, without any signs of deformity or dwarfishness, and in colour a dark chocolate. When walking with the finely-developed men of the Parimau tribe, their small size was very noticeable, the former averaging about five feet six to seven inches, whilst the new-comers, as we were to find in camp, barely reached four feet seven inches in height. They proved to be members of a mountain tribe known by the name of Tapiro, living on the lower slopes of the mountains where, we were informed, their villages and plantations lay. Hearing of our arrival, or perhaps having seen our tents from

PRIMITIVE METHODS

above, they had come to spy out the land and had been captured in the attempt. To make matters worse, they had been caught trespassing in a district into which they were not permitted to enter. Their dress consisted of a grass helmet with upright rims, and a projection at the crown into which a bird of paradise plume could be inserted. Over one shoulder was suspended a string bag containing a collection of fishing-tackle and fire-sticks; these, together with a hollow bright yellow gourd some fifteen inches long, worn as public clothing with the narrow and closed end pointing upwards, and held in position by a string fastened round the waist, formed their complete outfit.

If we were to penetrate into the hills by the route we were following, it was most necessary to be on the best terms with this tribe. In order, therefore, that they might carry a good report to their village as to how they had been treated, the prisoners were given a few more odds and ends and told that they were free to depart. The older man of the two left hurriedly, and in a few moments was swallowed up by the jungle, but the younger stayed on and remained with us for a couple of days—this apparently by order of the plainsmen, for he worked and carried wood for them during his stay. Then he likewise vanished, and for some months was seen no more.

In the latter stages of the expedition, when we got to know him better, this man proved to be the most intelligent member of his tribe, and acted as our regular go-between during the visits we subsequently made to the mountain home of the Tapiros.

That evening he showed us how to make fire. Two implements were required—a stick of hard wood and a length of split rattan. A cleft was made in the stick,

PYGMY HISTORY

into which a stone was forced so as to keep the sides apart. Then, having placed one end of the stick beneath his foot and the other over a bunch of dried leaves, he passed the rattan rope beneath the cleft stick, and grasping it with his hands, worked it rapidly backwards and forwards till the friction, engendered by the rattan against the sharp edge of the stick, produced ignition. The smouldering leaves were then blown into a flame. Interested by this somewhat deliberate process of making fire, I thought he would be delighted with the simplicity of the common match. The effect was disappointing as, after one gasp of surprise and a grunt of disapproval, he not only refused to accept the box as a present, but walked hurriedly away when the experiment was about to be repeated.

Owing to our very slight knowledge of the language of the plainsmen at that time it was exceedingly difficult to obtain any information as to the numbers and habits of these small men of the Tapiro tribe. I perforce had to speak in English and in the language of signs. The plainsmen tried to interpret, but every time that I failed to grasp the meaning they resorted to the usual native expedient of shouting the same words in a louder tone; and as the whole party talked at the same time, the cross-examination, though interesting, was not conducive to obtaining the information required.

I was soon to obtain a further insight into the life history of these small men, fully confirming my view that a hitherto unknown race of pygmies had been discovered—men who for countless ages had lived and died in the midst of the densest forest and in the fastnesses of the mountains. My impression at the time was that they were probably the descendants of scat-



PYGMIES MAKING FIRE

1. By friction causing the wood to smoulder.
2 and 3. Blowing the smouldering embers into a flame

PYGMY HISTORY

tered families of the indigenous tribes driven into those inhospitable regions many centuries ago by more powerful or invading races who had settled on the coast. Time and hardship had left their mark on the weaker race. Generation had succeeded generation subsisting on the scanty supplies of food which were only to be obtained by never-ending labour, with the result that physically they had much diminished in size, though still remaining wiry and agile. The chase was the very essence of their being, and with it they had acquired the stealthy movement and ever watchful glances of the hunter. The fact that they seldom see the sun owing to their homes being in the dense hillside forest, and to there being no broad rivers in the country, on the banks of which they can bask and absorb the solar warmth, may account for the fact that they are slightly fairer in colour than the plainsmen. It was thus that I accounted for the existence of this hitherto unknown race of diminutive men, but although these assumptions may appear reasonable enough to the lay mind, they are not generally accepted by scientists, and I must leave it to those more versed in anthropology than myself to account for their origin and peculiar physical characteristics.¹

On the day after our meeting with the Tapiros the Papuans abandoned their stubborn mood and consented to transport the camp to a spot three miles up-stream; from this point a few more miles of the river were explored. It was on the third day that the first determined attempt was made to penetrate into the mountains.

Long before there was any sign of light in the east we were astir and ready to set out, but, early as it was, our movements did not escape the ever-watchful eyes

¹ See Chapter XIX.

PENETRATING THE MOUNTAINS

of the natives camping close at hand. They were soon clustering round, wanting to know where we were bound for and what we were going to seek, and when they understood that we intended to enter the hills, expressed their intention of joining the party. To this we agreed, and a start was made. As the water was low a good rate of speed was maintained along the river bed, until we were obliged to enter the forest by a path lying some hundred yards back from the Kaparé, and entirely invisible to any eyes but those of a native. After following the track for about a mile we again struck the river bank. In this region of the foothills the waters of the Kaparé were now tumbling along in surging masses of foam.

It was at this point that I happened casually to glance down-stream, and noticed the figures of two men nearly one hundred and fifty yards away under the opposite bank, with their backs towards us. Very naturally I pointed them out to the rest of the party. Instinctively the men with me halted and sank to earth, and, in a moment, had concocted their plan of action; the execution was one of the sharpest bits of patrol work I have ever witnessed. In less time than it takes to tell, six of them vanished like ghosts along the path by which we had just come, whilst the remainder slipped noiselessly into the water, and, spreading out, swam down stream at racing speed over the tumbling rapids. Fast as they approached their quarry, they were no faster than those who were moving through the forest, and, little as I desired forcible methods of capture, it was impossible not to admire the sight of savage stalking savage. Thirty yards now divided the hunters from their quarry; the roar of the waters drowned every sound. Suddenly

BRAVE PYGMIES

the jungle party broke out of the forest and dashed headlong into the river. The pursued, now for the first time aware of their danger, made a wild rush for the opposite bank, but it was too late. The river party was upon them in a moment. So complete was the surprise that an appeal to bows and arrows was out of the question, but in spite of this they put up with their fists one of the prettiest fights imaginable. Standing breast high in the torrent, they struggled manfully to escape, and, despite the fact that they were outnumbered by six to one, held their own for a considerable time. As they were being badly buffeted, I hurried to a point on the bank opposite and, holding up both hands, shouted and beckoned for them to come to me. These peaceful overtures had no effect, and they continued their struggles; fight as they would, however, weight told at last, and they were dragged before me breathless from their exertions, and in a state of complete nudity, their gourds having been pulled off, their bags removed, and their bows and arrows wrenched away.

They were both bearded, and in age might have been anything between twenty and twenty-five, as well-proportioned and as muscular as those who had been captured a few days previously. Despite their protests, I measured them then and there as well as was possible, and found them to be four feet five inches and four feet six inches respectively. Like the others, they were too frightened to speak or make any other sound than a quick indrawing of the breath—a kind of hiss, this being their only reply to the numerous questions hurled at them by the captors. Their belongings were dealt with in the same way as in the case of the earlier prisoners, everything being collected and

LAND OF THE PYGMIES

returned to them. They were then offered the "pipe of peace" in the form of a cigarette, but though they sat down and smoked their own tobacco they were far too suspicious to have anything to do with mine. A few blue beads, however, worked wonders, their eyes literally glistening at the sight. The discussion which followed was to me uninteresting, as only one of the little men could make himself understood to the plainsmen, and I, for my part, could understand neither one side nor the other. Precious time was being wasted over this conversation, so they were told to rejoin the party and come with us to the mountains.

A mile farther on we struck a beautiful crystal stream running from the east, which, as we afterwards learnt, formed the boundary line between the land of the pygmies and that of the plainsmen. Beyond this point the men refused to go, or even to show us the path, and the two Gurkhas and I were compelled to proceed alone. Following some marks on the rocks, before long we struck a small jungle path, so narrow and heavily overgrown that though, perhaps, suitable for a pygmy, it was a matter of difficulty for the ordinary-sized man, such as a large-limbed plainsman, to pass along with any speed. For an hour and a half we moved steadily forward, the path all the while rising rapidly, until, at last, we entered such a labyrinth of ravines and nullahs that further progress became impossible. A deathlike stillness reigned everywhere—not even a bird or a reptile was to be seen. Few hours of daylight remained, and as the trail had entirely disappeared, and we had no knowledge of the position or of what lay ahead, the quest was abandoned, and we retraced our steps. At the crystal stream all was silent and deserted—the men, big and little, had vanished,



PYGMIES OF THE TAPIRO TRIBE

1. Wearing the split mandible of the hornbill to produce a fierce expression.
2. One of the oldest men of the tribe and a great obstructionist.
3. The keenest trader. Bone ornaments through the septum of the nose.
4. One of the crowd.

PENETRATING THE COUNTRY

tired, I suppose, of awaiting our return. And so ended our first attempt to track the pygmies to their village.

On the journey back to camp a further discovery was made, for, whilst examining with my glasses the ground over which we had advanced, I was able to see distinctly the edge of a forest clearing far up the mountain side. It had the appearance of being cultivated, and was, therefore, likely to be in the near vicinity of the pygmies' mountain home, and the source from whence they obtained their daily sustenance. This further discovery made us all the more determined to penetrate into the mountainous country, and to examine in greater detail the weird and interesting race which had been so unexpectedly brought to light.

Two days later another attempt to reach the clearing led to no better results. After hours of clambering over rough ground and through dense undergrowth, our spirits every now and again buoyed up by a faint trail of a moss-covered rock which had apparently been worn by the foot of man, we again arrived in a trackless labyrinth of deep ravines. The quest seemed hopeless, and we returned dispirited to camp. Wollaston, however, now arrived on the scene, bringing fresh stores, and together we thought out new schemes for an advance.

A third attack was made on what I had almost begun to believe was the mythical home of the pygmies, and this too ended in failure. Had it not been for distinct signs of felled trees upon the clearing we should have been tempted to give up the quest as hopeless. We determined, however, not to be beaten, and at last perseverance was rewarded.

The next day a fresh start was made, but after

THE HOME OF THE PYGMIES

climbing for six hours without a break, the last part of the way being along a faintly-marked trail, a consultation was held and it was decided to return to camp. We had followed similar trails on other occasions without any result, and had now lost confidence in them. However, a Gurkha, Pulman by name, was most adverse to going back, declaring confidently that within an hour we were bound to find the long-sought-for goal. His persuasive appeals determined us to persevere, for we all felt that another day's tramp was no more likely to bring us nearer our quest than we were at that present moment. Scarcely had another furlong been covered when, to our surprise and delight, the forest grew thinner, and we found ourselves on the edge of the clearing which we had so long desired to reach; and there, peering at us from underneath a leafy shelter, was one of the same men whom we had captured a week before.

He might have been a statue for all the welcome he vouchsafed us, but that there was life in his body was evident by the penetrating yodelling which burst from his lungs—doubtless a signal to bring the other tribesmen to his assistance. Hurrying forward, we were able to take up a good position on the cultivated ground before reinforcements began to arrive. Up they came, one after another, till eight little men were collected in a bunch, all much excited and panting from their hurried advance. They apparently were of opinion that still more help was required, or it may have been to warn their female relatives, but each as he arrived joined in the warning cry. No other pygmies put in an appearance, so, though rather disappointed at not seeing a greater number of them, we

THE HOME OF THE PYGMIES

had to be content with examining the few who were present.

They were truculent, unsociable souls, retreating on any attempt to draw near, and holding their bows and arrows ready for instant use. Though varying somewhat in size and build, on account of the similarity of their get-up they bore an extraordinary resemblance to one another. As we were afterwards to visit their habitations when many were collected together, I will defer a description of their peculiar costume till then. Conversation was at a discount, for at this date our stock of the plainsmen's language was limited, and what few words we knew failed to convey any meaning to the minds of our hosts. We had recourse to the primitive plan of barter as a means of quieting their suspicions, and were so far successful that several arrows were exchanged for beads, an article of commerce they were quite unable to resist. Even this restricted amount of trade was only carried through with the aid of our former captive and at arm's length—a very unsatisfactory way of doing business.

The clearing in which we stood could have been little less than 120 acres in extent, although at this first visit only a limited portion was visible from where we were. It was closely cultivated, with a mixed crop of taro and sweet potato, but much broken by fallen trees. No huts, with the exception of one leafy shelter, were to be seen, nor were there any signs of habitation or smoke to show where the remainder of the tribe had their dwelling-places, but that a numerous colony existed close by was evident from the extent of the cultivated land, which could produce enough to feed one hundred or more people all the year round. Mighty tree-trunks lay scattered

THE HOME OF THE PYGMIES

over the slope, some few showing signs of having been felled by fire. In the majority of cases a close examination of the roots showed that some small instrument had been used in the felling. Inquiries proved such to be the case, and the identical weapon which had been employed was produced, namely an extremely small axe, the head three inches in length and $1\frac{1}{2}$ inches in width, made of the softest iron—it was possibly a piece of old hoop-iron. We were not allowed to touch this precious article—it was too highly prized. This was not to be wondered at when its probable history is considered, with what trouble it had been obtained, the great distance over which it had been brought (for it must have come from the coast), and the high price which doubtless had been paid for it. With this instrument, a few stone axes, and by the aid of fire, a great section of the densest forest has been cleared of timber, and when it is remembered that burning a tree down is an almost impossible operation in such a streaming wet country, it is evident that the work must have taken years to accomplish.

Some plane-table work was carried out while the bartering was in progress, though in this we were continually inconvenienced by the exclamations and gestures of our inhospitable hosts, whose one desire was to see the last of us. It was evident that the path by which we had come was not the usual means of access to the plains, and we now endeavoured to persuade our small friends to disclose the right track, not only in order to save a repetition of the wearisome journey back to camp, but because we might wish to follow it at some future time. Though understanding quite well what was required, they flatly refused to

FRESH LINE OF ADVANCE

point out the regular road, and despite the tempting offer of a piece of red cloth, not one of them would render any assistance whatever.

Our efforts at persuasion having failed, we were at length obliged to retire by the same way as we had come, followed, so long as we remained in sight, by the scowls of the excited and jabbering pygmies.

Though our curiosity as to the clearing was partly satisfied, the stubbornness and secrecy of the small men made us all the more determined to find out where their habitations were, how they lived, and what were their customs.

For the present honours were evenly divided, and the claims of other work were of too pressing a nature to allow of a prolonged stay in this district.

The Kaparé having proved unsuitable as a line of advance to the snow-clad mountains, it was necessary to strike out in an entirely new direction. The storehouse and the prepared road were abandoned. Wollaston returned to Wakatimi, and Marshall came up to join me at Parimau; consequently our efforts to study this interesting race more closely had to be postponed for several months to come.

CHAPTER IX

Parimau—A promising farmyard—Native dogs—Pet animals—A cassowary—Up the Mimika—Arduous travelling—Capsised—The language—"Oewera-mina"—Birth, marriage, death—Disease—Burial—Medicine—A brisk market in skulls—Religion—Courage of the natives—Useful electric torch

LITTLE more could be done in the way of exploration until the arrival of Goodfellow with the new batch of coolies. Our time, however, was fully occupied with the work of constructing the houses of both the Dutch and British sections, which was carried on energetically, until at length living and store rooms sufficient to shelter the whole force extended for a distance of two hundred yards along the right bank of the river, while a considerable area of the forest was cleared for hygienic reasons, and for the cultivation of Indian corn, papaya, bread-fruit and banana trees, beans, pumpkins, and other vegetables. Such was the richness of the soil that, now that the sun's rays were able to reach the ground, the imported plants flourished exceedingly—the scarlet runners and pumpkins in particular spreading over every roof and railing.

Paths were made, landing platforms and ladders erected, and an example, which they were not slow to follow, set to the villagers opposite as to how human habitations and their surroundings should be laid out.

Parimau on our first arrival had consisted of a straggling, irregular row of twenty-four huts, all of the roughest and most primitive description, situated on

A PROMISING FARMYARD

the highest point of a shingly beach at a bend of the Mimika River. Three months later, so many additions and alterations had been made that the place was hardly recognisable. A section of the forest to the north and east had been cleared, a new site selected farther away from the river, and the huts, now forty-five in number, erected afresh on an altogether superior plan.

The style of architecture in one or two instances was a very good imitation of what had been adopted for our storehouses, which, owing to their having been built almost entirely by the Gurkhas, who were naturally influenced by the type of building they had been accustomed to live in, were again a copy of the usual habitations to be found in Nepal. A dancing-hall sufficient to hold one hundred performers had also been run up, from whence nightly sounds of revelry and the thud, thud of the drums told of much dancing and contented lives. Sad to relate, this attempt on the part of the natives to improve their lot was largely labour in vain, for before the end of the year both land and huts had vanished, swept away by the insatiable floods.

On our side of the river a most promising farmyard was established, the chief inmates being three or four young cassowaries and pigs, which, though black when mature, are at this early age marked with horizontal brown and yellow stripes. These animals rapidly became tame, and within a day or two of being captured will follow one about like dogs; one little pig in particular used to play the familiar puppy-dog game of racing round and round the table, squealing hard when a grab was made to catch him, and when one got tired of playing thus, would seize and

NATIVE DOGS

shake one's trousers to show that he for his part wished to continue the fun. The young cassowaries and pigs are easily caught by the natives, the mothers being run down and brought to bay by the dogs until the arrival of the hunters; the old ones then break away and leave the young to be caught or escape as best they can. If possible, the squeakers are taken alive in order to be brought up and fed by the villagers, and eaten at some special festival. When young and ignorant of the unkind ways of the world, they have a bad time of it from the village dogs, being chased hither and thither, until at length they realise by bitter experience that the hut is the only place of safety.

The dogs are of the usual yellow mongrel type, about the size of an Irish terrier; thin, lank, and covered with mange. They are to be found all over New Guinea, and are much prized by their owners, for on their keenness and hunting instincts depends the regular supply of meat. Without their aid hunting would be but an unprofitable labour, and the men might seek in vain for the flesh which they so much relish. Two or three times a week they are taken out and rarely fail to run down a pig, cassowary or wallaby, sometimes cornering as many as four or five of the latter in one day. Curiously enough they never bark, but amply make up for any inability to relieve their feelings in this respect by their mournful and prolonged howls. Started by one dog, the identical note is taken up by every animal within hearing distance, and is continued until one wishes every creature dead and buried. Valuable though they may be to their owners, they are starved, cruelly treated and thrashed on the slightest provocation, but, in spite of the fact that they must have the same instincts as other



WAMBIRIMI VILLAGE
The home of the Tapiro pygmies.



PARIMAU CAMP
The British section, with natives' huts, erected on the river bank.

PET ANIMALS

dogs, however severe the rain of blows, they never move away at a faster rate than a walk. This is not from any false idea of dignity, for they yelp almost before the blow is struck, and keep it up for minutes afterwards. Not a single dog became friendly with any of our men, or would ever enter the camp except under cover of darkness, and this was certainly not owing to any ill-treatment they received, for whatever faults a Malay may have, cruelty to animals is not one of them. The number of birds and pets collected by our followers at Wakatimi showed this clearly enough; after a time their lories and parrots became so tame that they were let loose to fly about in the jungle during the daytime, coming down and alighting on the shoulders of their masters when called at dusk.

The only wild animal which entirely refused to respond to friendly overtures and efforts to tame it was the night-loving cuscus, a sluggish opossum-like creature, with yellow cat-like eyes and a coat suitable for the arctic regions, ever ready to bite and prepared to use its claws on the slightest provocation. After weeks of careful and kind treatment, they remained as savage and unsociable as when first caught.

As is usually the case, most of the pets came to untimely ends, and except for the birds none were ever destined to find a home in the Zoological Gardens of London. Indeed, an animal or bird which lives in constant danger of meeting its death from shot or snare seems almost to have a better chance of remaining alive than one which is cared for in every way that man can devise. Some animals seem to have charmed lives, and this was the case with a female cassowary, which for a whole year passed daily backwards and forwards within half a mile of Parimau Camp. Her

UP THE MIMIKA

deep-noted call was heard morning and evening as she went her usual round heedless or disdainful of the many attempts made to end her existence. In July her continual drumming attracted a male bird from the forest on the other side of the Mimika. He emerged one morning from the undergrowth directly opposite the camp, and was seen to march across the beach and attempt to ford the swollen river. Absorbed in planning out a scheme to cross the torrent he passed close to the huts and in full view of the natives, but seemed to be too preoccupied to notice the excited throngs which were observing him from both banks; and it was not until half a dozen rifle shots had scattered the sand near him that he realised his uncomfortable situation and retired once more to the seclusion of the forest. Undeterred by this failure, he made another attempt on the following day, but this time with more unfortunate results to himself, for a lucky shot laid him low close to the water's edge. This bird proved to be a new variety, and would have been a valuable acquisition to the collection. Unluckily, some of the coolies reached the carcase first, and before they could be stopped had plucked out handfuls of the best feathers with which to make fly whisks!

It was during one of the many short journeys undertaken for the purpose of collecting mammals and birds, that a garrulous and unwary savage unintentionally showed Shortridge a path which led eastwards, at the other end of which, so he said, a great river ran. Apparently these people did not wish us to know of the existence of this route, and in spite of the fact that natives often arrived from some place in that direction always professed ignorance when questioned about it. It was a fortunate discovery, as the entrance

ARDUOUS TRAVELLING

was so well concealed that we should never have hit upon it ourselves, and owing to the Kaparé route having proved useless, our great desire was to find a new way leading towards the great mountains in the east. With the exception of this valuable piece of information, Shortridge's journey yielded no zoological results, and indeed, proved an unfortunate one for those who took part in it. It may be interesting to relate briefly the adventures of the party on this occasion, as they give a good idea of the difficulties which were constantly being experienced as the result of distant storms and rainfall in the mountains.

Accompanied by two Gurkhas, Shortridge set out soon after daylight for the purpose of working the forest close round the source of the Mimika, taking with him sufficient equipment to enable him to prolong his stay should it be found necessary to do so. No Papuans were employed as carriers, as they had hitherto proved themselves entirely unreliable, but with the usual perverseness of the native, twelve of them followed the party on foot to a spot where, on account of the shallowness of the water no further progress in the canoe was possible, and where, in consequence, the tent was pitched.

Leaving one Gurkha behind, Shortridge pushed on for another three miles, keeping to the river-bed so as to avoid the tedious work of cutting a way through the forest. While slowly progressing up-stream in this manner, he noticed that the river was appreciably rising, although as far as was known no rain had fallen anywhere in the neighbourhood. An immediate retirement was decided upon, but so rapidly did the river deepen that after going back a few hundred yards they were forced to leave the bed and take to the

CAPSISED

jungle. At the first creek, which half an hour before had contained no more than the merest trickle of water, they were only too glad to make use of a fallen tree in order to gain the further side. After a two hours' struggle through a sea of mud, perpetually felling trees to bridge the numerous swollen creeks encountered, and drenched to the skin by the rain which had now commenced to fall, they arrived at the place where the tent had been left. Here the country was found to be under water and the savages standing ankle-deep on the roots of the trees, whilst the tent itself and the baggage had been placed for safety on the branches overhead.

It was out of the question to attempt to camp in such a place, and the only alternative was an immediate return by canoe, despite the swollen state of the river. Unfortunately the dozen Papuans had also come to the same conclusion. In vain did Shortridge attempt to keep them out of the boat; they had made up their minds to come, and it was impossible to prevent them. They clambered in and, seizing the poles, started the overladen and rickety craft on her homeward voyage. Though the river was now in full flood, by clever handling of the canoe, in which art these people excel, they would doubtless have reached home safely had it not been for a slightly submerged and quite invisible tree-trunk 500 yards above the village of Parimau. This, as fate would have it, they struck full in the centre, and in an instant the canoe had capsised; the occupants were thrown into the water and struggled ashore as best they could. Guns, rifles, and provisions went straight to the bottom, whilst the lighter articles were whirled away in the darkness. The old men of Parimau, hearing the commotion, rushed from their huts

THE LANGUAGE

and, wading breast-high into the torrent, seized most of the floating goods as they were being swept past the village. The women, who on the first alarm had fled to the jungle, on learning that no lives had been lost, hurried back with demonstrative cries of joy to hug and cry over the bedraggled heroes of the adventure. No real harm was done, as the weapons were recovered when the waters had subsided, and only a few unimportant articles were irretrievably lost. This rapid rise of the river was by no means exceptional; in fact, it afterwards became a daily occurrence, varying only according to the intensity of the storm and the catchment area first struck.

Except for short journeys such as this in the neighbourhood of Parimau, little could be done at this time owing to no coolies being available for transport. Our time was occupied in skinning and preparing the natural history specimens brought in by the Gurkhas, whilst every opportunity was taken to make a fuller study of the Papuans working in and around the camp and the small parties of visitors who still continued to trickle in from the villages lying in more remote districts.

During the early months of the expedition the difficulty of mastering even the rudimentary elements of the language was such that we were often led into forming wrong conclusions as to the customs and habits of the people amongst whom we were living.

As an example of the mistakes which occur when one attempts to grasp and put a meaning to the words of an unknown tongue, the following is typical. We were at this time particularly anxious to reach the village of the Tapiro pygmies whose plantations we had already visited, or indeed any other village belonging to this tribe (it was not till several months after-

“OEWERA-MINA”

wards that we learnt that they were known as Tapiros), but, before making any inquiries as to how to get there, it was first of all necessary to know what the little men were called by their greater brethren of the plains. After much discussion we came to the conclusion that the word “oewera” meant “men,” and the word “mina” meant “small,” so having settled this point guides were obtained from the village and instructed to lead us to the place where the “oewera-mina” dwelt.

Several small journeys were undertaken for the purpose of seeing the “oewera-mina” in their homes, but, curiously enough, despite the promises of the Papuans, not once did we have the slightest success.

Now, one of the Papuan carriers was of diminutive size, and although we knew his real name to be Tibbo, as a joke he was nicknamed “Oewera-mina.” This caused hilarious merriment amongst his friends, and despite his evident dislike to the term the name stuck, and by it he was known to the end of the expedition. Not till long afterwards did we learn that “mina” was the Papuan for “no,” and discovered that we had been making efforts, not to reach the home of the pygmies, but the land where “no man” lived. Added to this, we had insulted our small carrier whenever we addressed him by calling him “no man,” a term of deadly reproach in this land where woman is held of no account.

As time went on and our knowledge of the language increased we were able to form clearer ideas regarding the customs and beliefs of this primitive people. Though their intellectual powers are very limited, and though swayed almost entirely by their animal passions, the study of their mode of life and ways of thinking

BIRTH—MARRIAGE—DEATH

was exceedingly interesting, and one was enabled to realise how the savage forefathers of the British race must have lived and reasoned three thousand years ago, until contact with the outside world raised them to a higher plane of civilisation.

In most societies the chief incidents in a man's life—birth, marriage, or death—are associated with becoming rites and ceremonies. Curiously enough, the savages of the Mimika district do not attach any particular significance to these events, and seldom mark them by observances or rejoicings. Marriages, except on special occasions, are not considered of much importance, and are not celebrated by feasts or jollification; in fact, they might be more properly described as "pairing off" than as what we understand as marriage. It must be remembered that woman is regarded merely as an accessory to man's comfort, a slave to his pleasures, and a creature whose chief business it is to procure and prepare his food. The girl is purchased and brought home to the man's village. The husband erects a separate hut, away from inquisitive eyes, but close to the village, and here the couple live for two or three weeks, afterwards joining the rest of the inhabitants in what is practically the communal dwelling-room. It seems strange that the occasion is not made more of by organising a "sing-song," a great hunt or a feast of some sort, but such is not the case; instead of this all is passed over in complete silence, and no particular significance is attached to this dominating event in a man's life. Nor is any attention paid to birth. Not once were we made aware of the coming into the world of a child, and this seems all the more curious, as the natives treat the children with great kindness and affection.

BIRTH—MARRIAGE—DEATH

It does sometimes happen in the case of an important member of the tribe that the marriage is marked by festivities and singing, though even this is exceptional. Such an occurrence was witnessed by Goodfellow at Wakatimi when the nuptials of one of the principal men of the tribe were celebrated. On this occasion a large awning was erected in the village street and decorated with much trade cloth; beneath this a concert was held at which the members of the tribe were present. The singing was kept up all night, and in the morning canoes, decorated with carving and fringes of grass, left the village for some spot downstream. Some few hours afterwards they returned, and the men disembarked and re-entered their huts. Then followed what to our eyes was a most pitiable and degrading ceremony. Out of one of the boats emerged the bride, accompanied by a very old woman—probably her mother. No welcome was accorded them, and no notice taken of their presence. The bride, preceded by the old woman, crawled out of the canoe into the mud, and on her hands and knees approached the hut of her lord in the same way that a dog crawls up to his master, knowing that he is to be punished for some fault. Slowly she advanced in this degrading posture, stopping every now and then to grovel in the mud, until she vanished through the doorway of her future home. Poor woman, who could not but pity her!

Other rites and ceremonies there may be, but whatever their nature they must be of the simplest possible description. Our position at Parimau commanded a view right down the village street, and had any celebration out of the ordinary taken place we could not have helped seeing it.

DISEASE

As to death and burial customs there was, unfortunately, enough evidence and to spare, for probably nowhere in the world are the birth and death rates so high. Middle-aged men and women are rarely seen, and I doubt if any person over forty, or at the most forty-five, years of age is to be found in the district. Boys spring into manhood and the young girls into womanhood in the course of a few months, the latter becoming mothers as soon as they are capable of bearing children, and then withering up and shrivelling away under the toil and strain of their laborious existence. Several boys whom upon our arrival we had looked upon as mere children were amongst the ranks of the men when we left the district some fifteen months later.

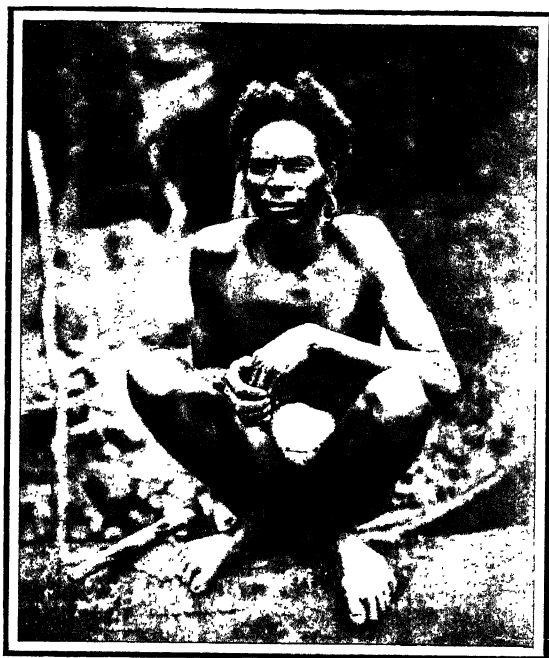
Fever, boils, pneumonia, elephantiasis, skin disease, leprosy, and syphilis are the main ills from which they suffer, more especially the last named, which here assumes a typical form. About 20 per cent. of the population appear to be afflicted with this dire complaint, the wrists and ankles being the parts chiefly affected. The scourge would seem to have been brought into the land by the Chinese; at any rate there is no doubt that they are responsible for its introduction amongst the people living in the northern and western part of the island, from whence it has spread round the coast to the more southern districts. It was particularly noticeable amongst the natives of the coast village of Atabo, where nearly half the population showed visible signs of its ravages. It is unnecessary to say more on the subject, for the sights we witnessed were too horrible to relate, and the sufferings of the stricken, more especially the children, were sufficient to melt the stoniest of hearts. What a contrast between

MEDICINE

the deformed and shrinking human being and the Papuan in rude health, graceful and powerful, every muscle standing out clean and distinct and the skin gleaming with physical well-being !

A great number of the natives appear to suffer at some time or other from malaria, and the only wonder is that more are not affected, considering how the malaria-carrying mosquito abounds in the swampy forests. For this we often gave the people quinine, sometimes with astonishing effect. Our old friend, the headman of Nimé, had his two wives down with fever at the same time, and brought them into camp whilst we were away at the coast. The younger was the prettiest girl in the district, and, to judge by her coy behaviour, was well aware of the fact. During her examination blushes coloured her dusky skin, and Marshall took an unconscionable time in feeling her pulse and inquiring into her symptoms. The quinine worked wonders, and the fever, which had possibly been aggravated by the excitement of the meeting, abated almost immediately.

The people seemed to have no knowledge whatever of the medicinal value of herbs, and only the most rudimentary idea of surgery, limited, so far as we could see, to opening the centre of the affected area with a split cane. Knowing nothing themselves about the art of healing they, like so many savage races, loved medicine, and would often feign headache, or some such ailment equally hard to diagnose, for the purpose of being given a heavy dose of pills. By the quickness with which the patient recovered his former spirits and the manner in which he settled himself where he could most comfortably watch and take an intelligent interest in the work being performed by



AN IDLE DANDY OF PARIMAU



PAPUANS EXPERIMENTING FOR THE FIRST TIME WITH SOAP

MEDICINE

others, the cure was a high tribute to the skill of the doctors, but to the onlooker was open to suspicion. Their powers of recuperation are extraordinary. I remember the case of a Parimau man who, when wielding an axe, had almost cut his foot in two. Blood poisoning supervened. When the case appeared hopeless and the loss of the limb, or even the man's life, was likely to result, he was brought over for Wollaston to attend. The wound was disinfected and dressed, and the man told to come over again on the following day. As might be expected from these perverse people, the patient was taken away and no more seen for five weeks. He was then found to have completely recovered and to have the full use of his foot, although naturally much disfigured, and of this weird limb he was inordinately proud.

No care is ever taken of the sick, since comforts and medicines are unknown, and the sufferer breathes his last in full view of all, amidst the everyday noises and quarrelling of the village. The body is left in the place where death supervened, the mourners flinging themselves on the corpse and rending the air with their shrieks. The howl of grief is taken up by all within hearing, and the people then proceed to the nearest mud pool to smear themselves from head to foot with filth and slime, returning again to their huts to allow the mud to dry, whilst the mournful wailing is continued without cessation. The near relatives, both male and female, often remove every vestige of clothing and continue their ordinary vocations for some days afterwards without washing off the mud with which they are covered. On one occasion, all the women having stripped naked, entered the river and paddled like dogs for a short distance up stream, returning

BURIALS

afterwards with renewed howling to their homes. The length of time during which grief is openly displayed, and the intensity of its expression, varies according to the importance of the deceased, but it is always less for a woman than for a man.

Shortly after the burial of a husband the widow adopts "weeds," consisting of a cloak and skirt of plaited grass, together with a great poke bonnet which stands out from ten to twelve inches beyond the face. Widowers, whatever their inner feelings may be, adopt no peculiar style of costume to express any outward signs of grief.

If death occurs in the morning the body is interred on the same day, otherwise on the day following. It is wrapped in pandanus matting, and carried shoulder high to the place of interment, followed by the entire population amidst outbursts of lamentation. The corpse is laid in the grave and covered lightly with soil, and is then roughly enclosed with sticks to prevent the entrance of the village pigs and dogs. Sometimes the body is left uncovered, and is then turned over daily, apparently with the object of hastening decomposition. A coffin, formed from a hollowed log and shaped very much like a canoe, is occasionally utilised, and is either buried in the soil or, as we observed in some few instances, placed on trestles two or three feet above the ground. The result is always the same, for in this hot, damp climate the body rapidly decomposes, leaving the bones clean and bare. These are taken from the grave or coffin and preserved in the ancestral hut, where they may be seen slung in grass bags or suspended by strings from the roof. The skull, however, is the only part deemed of great importance, and even then it is only valued at the price of a handkerchief.

BRISK MARKET IN SKULLS

Specimens of skulls were required by the expedition for scientific purposes, and when this became known dozens were displayed or brought to the camp for sale. Soon after our arrival at Parimau Marshall saw a skull lying on the floor of a hut and at once coveted it, but the request to be allowed a close examination produced such a scowling and talking that we came to the conclusion that these relics of the dead must be priceless heirlooms. Determined to secure one by fair means or foul, I took the most friendly native to a secluded spot, Marshall meanwhile keeping his companions busy talking; after much difficulty I succeeded in making him understand what was wanted. Fearing trouble if the deed was found out, I did my best to explain that he was to obtain a skull and bring it over to the camp at night, without saying a word about it to anyone. For this he was to get a knife and handkerchief. The prospective desecrator of graves—for I looked upon him as such—at once walked to the bank opposite the village and, with a voice which could be heard by every soul, brazened forth the fact that we were collecting human skulls. I did my best to prevent this outburst, but it was too late. In a moment the village was in an uproar, but to our intense surprise, instead of any hostile demonstration taking place, at least a dozen men emerged from the huts, each with a skull tucked under his arm. Down the beach and through the water they raced to our tents, each striving to be the first to dispose of his relic, delighted at the idea that trade goods could be so easily obtained and no manual labour required in return.

I wish I could say more about the beliefs and secret customs of these people, but the great difficulty

RELIGION

experienced in understanding one another prevented any intelligent conversation on these subjects. When alone they would give but little information, and, when two or three were together, they insisted upon all talking at once. It was bad enough to understand when only one man spoke, but when all joined in the result was a hopeless babel of sound. Much, however, can be learnt by personal observation, and small things, apparently unimportant in themselves, when pieced together often allow of fairly complete and accurate deductions being formed.

The wailing which takes place on the arrival of visitors, and which had so startled us on our first journey up the river, we found out afterwards to be a form of prayer practised during the performance of any risky deed, at the ceremonious slaughter of a pig, and even at the setting of the sun.

There is nothing to indicate that these savages have any definite belief in a Deity, nor did we observe any signs of religious worship. In front of the principal huts in the village of Nimé stood a rudely carved figure of a man, about four feet in height. Another and similar idol was propped against a tree in the village of Atabo, whilst a third was discovered in some bushes half-way up the Mimika, apparently brought down and washed ashore by a flood. The natives showed no respect for any of these idols, but laughed at our interest in them, familiarly patting their rather shapeless limbs. So long had the third specimen been in the position in which it was discovered that a branch had grown through the ribs, whilst the fact that it had remained there such a length of time showed of how little value it was in the eyes of those who had fashioned its malformed body.

COURAGE OF THE NATIVES

Belief in a future life, however, is common to all savages throughout the world, and it is the same here, for when asked what became of a man after death, the native would reply, "Far away," with a vague sweep of the hand towards the horizon.

They are not wanting in courage, which sometimes amounts to foolhardiness. On the coast the frail canoes are taken far out to sea and through the roughest of surf, without any fear being shown of the ground-sharks which swarm in these waters. When in a canoe on the river, or when swimming, there is no rapid too swift, no current too strong, for these men to venture through. Even of the alligators the native has no fear, plunging in to seize the smaller ones and, at the sight of the larger, merely heaving a sigh of regret owing to its being beyond his power to secure so large a store of meat.

On land the same disregard of danger is shown. The large number of snakes, mostly poisonous, which abound in the forests are looked upon not as dangerous to human life, but as a valuable supply of food. At Parimau, when it became known that snakes were required for the reptile collection, large numbers of horned adders and other varieties were brought in to camp, though the bite from any of them meant certain death. As badly damaged specimens were rejected, they were generally brought in alive and uninjured, either held by the neck, twisted round a stick, or sometimes even wrapped in a bunch of leaves. On one occasion the snake was brought in coiled on the top of a bunch of leaves, held in the hollow of the bent arm. A life of incessant watchfulness has endowed the native with a remarkable quickness of eye and deftness of hand. As an instance of this, when Goodfellow was crossing a small stream on the way to Tuaba, the native immedi-

COURAGE OF THE NATIVES

ately in front of him, who was carrying a heavy load, made a dive into the shallow trickle of water and brought forth a writhing adder in his hand. He was quite unconcerned, and after offering it to Goodfellow passed it on to the man in rear, telling him to keep it for the evening meal. On another occasion when a tree which was being cut down crashed into the river, a poisonous snake was cast from the branches into the water. Our coolies sent a shower of stones after it as it swam away, but Nata, a small boy belonging to the village opposite, not wishing to lose the chance of the reward, plunged into the stream, and grasping the wriggling creature behind the head, brought it to land, where it was forthwith consigned to the spirit bottle.

These are only one or two of the numerous instances of the fearlessness displayed by the natives in dealing with dangerous animals which came to our notice during the time we were in the country.

The power to endure pain is another trait in their character. They will stand an operation in silence and without flinching. In the various combats with clubs which they practise, though each man in turn receives resounding thumps on the back, sufficient to break an ordinary man's ribs, not a tremor is shown, nor is there any shrinking from the punishment. But show them something they do not understand, such as an electric torch, or a "Teddy bear," and the untutored mind is at once full of misgivings.

The electric torch, brought into the country for night work with the theodolite, struck greater terror into the hearts of these people than our entire armoury of offensive weapons combined. It had to be but lifted from the table and every native within view would at once leave the camp. The following incident

USEFUL ELECTRIC TORCH

will give some idea in what high esteem its magic properties were held, and how by its use did a woman escape a severe beating, if nothing worse. One night, some hours after we had turned in to sleep, we were awakened by the shrill screams of a woman in the village opposite, accompanied by the guttural exclamations of a man in anger, and the sound of blows. The uproar increased, the whole village was astir, and the shadowy forms of men could be seen running backwards and forwards as if seeking for someone. The tumult slowly subsided. Beyond this we could make out nothing, and were just turning into bed again, when a roar of anger went up from the crowd, and a rush was made across the shingle beach. Simultaneously there was a splash, and by the ripples in the water a figure could be seen swimming hard in our direction, evidently with the intention of taking cover in the shadow of our overhanging bank. We had to try and protect the fugitive, doubtless the woman whose screams we had heard, but could not lend a helping hand lest our action would be detected and a worse retribution eventually overtake her. Marshall at the time was holding the electric torch, and this he turned full on the people, with most striking results. In an instant there was dead silence, and without another word being uttered or a man venturing to enter the water the crowd dispersed and slunk back to their homes. Who the woman was, or what became of her, we know not, but that she escaped the first outburst of anger was the most important thing, and for this the torch was entirely responsible.

CHAPTER X

The track to Ibo—The Tuaba River—Inundations—Tattoo marks—Hospitality—A critical moment—Expeditious house moving—A zoological collection—The bower-bird—Birds of paradise—Arrival of fresh coolies—Poling and paddling—Trade articles

ON the last day of March Marshall and I started on a journey eastward along the path discovered by Shortridge a fortnight previously. The Papuans were only too anxious on this occasion to carry the loads, for they had intended in any case to go in that direction, and to receive payment for their journey was just what they desired. The track branched off from the Mimika some three miles above the camp, this circuitous route being taken in order to avoid an impassable sago swamp which lay directly to the east of Parimau. The going was heavy, and from the faintness of the track it appeared that the road was little used; the bent and broken twigs on either hand, however, showed that it was the recognised route. Innumerable streams crossed the road, several of them waist deep, but otherwise there were no obstacles to our progress.

News of our coming must have been sent on, for at the half-way halt half a dozen natives were found waiting to assist with the loads. One of these carried a young pig, its snout tightly bound with rope, and to judge from the torn arm of its owner, a decidedly savage little beast. So bad was the inflammation and so much pain did it cause that the man was only too pleased to have it at once attended to by Marshall.

THE TUABA RIVER

In spite of this he absolutely refused to be parted from his pig, and I know that he looked after it well, as some time afterwards I saw it when fully grown ; later on it must have gone the way of all well-flavoured pigs, for it disappeared from view.

Five miles after leaving the Mimika we came out on to the banks of one of the channels of the Tuaba, which at this time carried a great volume of water and was quite unfordable. Luckily a tree had fallen into the water and jammed almost from bank to bank, and by means of this and a rattan rope we were able to reach the other side. The experience was exciting, and we were inclined to think dangerous, an opinion apparently shared by the natives, judging by the continuous wailing which was kept up by the patriarch of the party whilst the operation was in progress. Later on in the year the river changed into another channel, so that this useful natural bridge was no longer necessary.

The Tuaba rises near the foot of the great precipice to the north, at a distance of some twenty-five miles or more from this place, and is quite as large a river as the Kaparé.

There being no ground high and dry above the level of the river, the tents were pitched on an island close to a few native huts, but owing to the rain which fell during the night it proved to be anything but a secure harbour of refuge. The water actually spread over the floor of the tent, but luckily on this occasion subsided before any damage had been done. As long as we were in the country we were obliged to use this site to camp on, as no higher ground was to be found anywhere near. Time and again it was flooded whilst occupied by our parties ; the baggage on one occasion being

INUNDATIONS

rescued by the natives, whilst the coolies had to spend the night in the trees.

During the first six months our coolies were always able to cross by means of the fallen tree, but when the south-east monsoons broke over the island, and the heavy floods formed another channel, some other means had to be found. Accordingly, a canoe was brought and moored to the trees, and this worked splendidly until it was commandeered by the Ibo people, who still continued to look upon it as their property although it had been bought and paid for.

Marshall and I had often heard of this village of Ibo and the Kamura River upon which it was said to be situated, so that we jumped at the chance of joining the natives who proposed to make a visit to that place. No baggage could be put into the rickety and overladen canoe, and as the Tuaba was in full flood after the night's rain we had numerous opportunities, when racing down stream with the speed of a destroyer, of appreciating the balancing abilities of the natives and their power of guiding a canoe. At times the boat moved slowly over an expanse of mud-coloured water, at others it darted at racing speed through narrow rapids, whilst the waves splashed over the side, a dexterous touch of the pole keeping it clear of the half-hidden logs.

As mile after mile went by the river gradually increased in size, and opened out on either hand, the dark green of the forest being broken by stretches of gravel or occasional masses of dead and tangled timber brought down by former floods.

Two small villages were passed, but the speed at which we were going precluded a close examination. Eventually seven miles lower down we entered a large



TATTOOED WOMAN
Raised weals made by sharpened shells



PARIMAU
The usual idle morning scene in front of the village.

TATTOO MARKS

triangular area of water formed by the junction of the Kamura and the Tuaba. Here we landed, for etiquette forbade a nearer approach to the village until due warning had been given. Ibo could be seen on the right bank of the Kamura half a mile away, and it was evident our arrival was the cause of much consternation. Men were running about grasping spears or bows and arrows, and jostling the women folk into the forest. When all was ready they advanced towards us in a threatening manner. Much waving of rags of cloth on the part of our men, and the evidently peaceful attitude we had adopted, soon caused these hostile preparations to be abandoned, and we were forthwith escorted to the village and introduced to numerous talkative and highly gratified greybeards.

There is practically no difference, either in appearance or in habits, between the men of Parimau and Ibo, and they undoubtedly belong to the same tribe. Further proof of this is afforded by their having the same tribal mark tattooed on the buttocks. Neither here nor along the coast do the women bear this mark, but instead, simply from love of decoration, they have a few unsightly raised and contracted ridges between the breasts or on the shoulder-blades. One woman in particular, the wife of the chief of Nimé, had her back extensively scarred with these disfiguring slashes, which, as they followed no regular design, did not add in any way to the attractiveness of her appearance. Except for these unsightly marks the art of tattooing seems to be unknown in the district, though it is almost universal along the north coast of the island, where considerable skill is displayed both in execution and design.

The village of Ibo consisted of thirty of the usual

HOSPITALITY

leaf huts, from which, as we landed, peered dozens of women's and children's faces. No smiles of welcome were to be seen, only looks of curiosity or suspicion. It is merely by taking not the slightest notice of the women, or by passing them over as if their very existence was not suspected, that any confidence can be obtained by the female section of the population. Their opinions have been of such little avail in the councils of the men from time immemorial that they now look upon themselves as mere chattels.

However low in the civilised scale the men and women may be, they certainly do not lack the elementary virtue of hospitality, yet the form in which it was offered was little to our liking. Though they understood quite well that we intended to return the same day to our camp on the 'Tuaba, and that we had brought no tents, food, or bedding with us, they insisted upon erecting a hut, in which they told us we were to sleep. What mattered it, they said, if there was no bedding; was not the sand warm and dry? and as for food, was there not an abundance of sago? To prove that we need have no fear of going hungry to bed, a couple of large flabby fish were produced. We thanked them in the best way we could for their offer, but told them that to stay the night was out of the question, as only one Gurkha had been left in charge of our goods, and that it was necessary to return at once. We had hoped that the natives who had brought us down the river would likewise take us back, but when we asked them to do so not a single man would enter the canoe, and the more we tried persuasion the sulkier they became, declaring that they had no intention whatever of returning that day. To make the matter worse, they refused to deliver up

A CRITICAL MOMENT

the plane-table, which had been brought along, and which was now in their possession. Unarmed as we were the situation began to look rather ugly, so in order to prevent any further annoyance the canoe was pushed into the river and we prepared to get back as best we could. This action turned the scale, and showed them that we were determined to depart at all costs. As they knew that they would get into trouble in the event of disaster overtaking us, an old man and woman stepped in, and with their aid Tuaba camp was reached by nightfall.

The conduct of the natives on this occasion was as strange as it was annoying, and I should have liked to know what their game really was. It is hard to believe that desire for our company was the sole reason for this obstructive behaviour, particularly as we had no trade goods in the canoe, and I wonder whether the fact that the Tuaba camp contained plenty of valuable stores under the guard of only one man may not have had something to do with their refusal. At any rate, they suffered for their misbehaviour, for though the old man and woman each received an extra good knife in payment, the others got nothing when they arrived in camp on the following morning. They seemed much surprised at this treatment, but solaced themselves with the thought that everything would come right if they hurried up and carried well as far as Parimau.

The inhabitants of Tuaba, likewise, decided to join our party, the love of trading and desire for gain having already taken a strong hold upon them. Thirty all told, not including dogs and pigs, were on the move within half an hour, and looked a heterogeneous though imposing gathering as they wound

EXPEDITIOUS HOUSE MOVING

their way through the jungle. Not an article of furniture or raiment was left behind. So frequently is this house moving practised that the packing-up process is carried out with great speed and the minimum of fuss. Certainly the amount to be transported is comparatively small, and each native knows exactly what is his particular branch of work—it would be more correct perhaps to say the women know, for it is they who carry everything, whilst the men do practically nothing. The former move the goods outside the huts, pack the loads, and, when on the line of march, carry by far the heaviest burdens. Apparently never quite satisfied that they have enough to carry, on the top of all they perch the smaller children, where they cling on to any projecting piece of baggage or twist their fingers tightly into the fuzzy hair of their mothers. Close behind trot the girls and boys, agile as cats, each carrying a load suited to his or her strength. The men, being lords of everything and having power to say who shall work and who shall go free, carry nothing more than their spears, and maintain that the arduous duty of marking the trail and keeping an eye on the dogs is all that can reasonably be expected of them.

Uninteresting though this journey to Ibo had¹⁰ ¹¹ in itself, it was sufficient to prove that the beginnings of the longed-for route to the east had been located at last. For the present, however, further prospecting work was out of the question, as with the fickle Papuan the only means of transport, distant travel was impossible.

Weeks passed during which every effort was made to accumulate stores at Parimau. Until at least a month's supplies were in hand, there was nothing to

A ZOOLOGICAL COLLECTION

be gained by interfering with the convoys of food and undertaking small local expeditions into the surrounding country.

In the meantime Shortridge and the Gurkhas were working hard to form the nucleus of the zoological collection. Between them they discovered several new species and varieties of small mammals, but considering the wide area covered in the search and the number of traps set in all the most likely places, the results were disappointing, to be accounted for, no doubt, by the boggy state of the country and its unsuitability to mammal life. To my everlasting wonder, the capture of an objectionable rat never failed to send Shortridge into ecstasies of delight; but then he is a naturalist, and can satisfy his enthusiasm by measuring the length of the hairs of its coat or noting the exact tinge of colour, while my ambition is to destroy them all and rid the world of a pest. The mammals are, without exception, marsupials, and the like are not to be found all the world over.

The birds, on the other hand, are of absorbing interest, and in no other part of the world can so many species be found, so varied in plumage and so striking in their peculiarities. Nature seems to have

ally selected the dark and gloomy forests of New Guinea, an impregnable land far from the reach of man, as the place in which to experiment in the most extravagant combination of colours and in new forms of bird life. Of these the collectors were fortunate enough to discover ten new species, of which one of the most striking was a Bower-bird, obtained by Shortridge on the Wataikwa. On the male the feathers are long and loose, those on the head, neck, and half-way down the back of brilliant orange-

THE BOWER-BIRD

scarlet, the cape at times being brought forward as a ruff over the head, the rest of the body golden yellow : a picture of the most vivid colouring. Bower-birds are so called because of the bowers or huts they construct for nesting purposes in a forest clearing. The huts are composed of moss, and are of elaborate structure, opening in front on to a lawn or garden, the whole laid out with great exactness and scrupulous care, and decked with brilliant leaves, flowers, and berries. On this dainty lawn the male bird dances and disports himself before his mate, or meets other males who play and dance together. The flowers and berries are grouped or placed in lines, according to their colours, and are renewed as soon as they fade.

Another species of exceptional beauty are the Pittars. They like to keep to the ground, and only take to flight on the rarest occasions. In shape and colouring there is a radical difference between them and other birds, but for pure beauty, with their brilliant and variegated plumage of black, chestnut, blue, and scarlet, they can easily hold their own.

Of the birds of paradise, the Kings are by far the most common. And what a glorious little gem he is, with his glittering scarlet head and back, his carmine throat edged with metallic green, two grey fans springing from his chest likewise tipped with green and spreading out on either side, the under-parts of snowy whiteness and with tail feathers of orange-red, the two centre ones of which are of great length, having at the tips a curled disc of golden green. How lovely he looks when dancing before his mate, when the breast and fan-like feathers are spread so as to form a shield in front, the scarlet feathers fluffed out, and the metallic discs of the two tail feathers waving above his head.

BIRDS OF PARADISE

Some consider his colours too vivid, and prefer the Rifle-bird, with his curved beak, velvety black coat, and gorgeous breast of plates of metallic blue-green. The noise this bird makes when in flight is as of the rustling of hundreds of sheets of paper violently shaken.

Towards the close of the expedition a new form of the Six-plumed Paradise Bird was obtained from the Iwaka River, a wonderfully decorated bird with the crown of old gold, silvery white and brown, and on the occiput a patch of stiff metal-like feathers, golden-green bordered with violet. On either side of the eye there spring three long plumes on bare shafts, a striking peculiarity.

Then there is the Twelve-wired Bird of Paradise with back and neck plumage of dark brown plush, wings of deep violet, and breast feathers edged with emerald green. On the sides are long ornamental plumes of bright yellow, and the rest of the under parts of the same colour. Add to the list the wonderful Magnificent, Greater, and others, and nothing in the world can be found to equal the splendour and variety of the birds of New Guinea.

Many other varieties are just as beautiful in their way, the Sun-birds, Honey-eaters, Fly-catchers and Flower-peckers. The Manucodes, with their sombre-coloured but glittering feathers, form the link between the birds of paradise and the true crows, and are peculiar in that the trachea is convoluted into as many as twelve coils.

Lovely creatures in a hideous country.

Although so pleasing to the eye, they are singularly deficient in song, the paradise birds venting their feelings in piercing unmusical notes, and most of the remainder in twitterings. It struck me as so

ARRIVAL OF FRESH COOLIES

peculiar that in this dark and dreary land, where hardly a speck of colour is to be found in a day's march, the birds should have been adorned by Nature in a very riot of colour.

In April, three and a half months after landing, forty-five coolies arrived, recruited for the most part in the islands of Banda, Buton, and Amboina; these were at once put on to the work of transporting food-supplies up the river to our advanced base at Parimau. On the whole they were of a superior stamp to those previously engaged, but it is a task beyond any man's power to select suitable carriers from such a weedy and anaemic race.

Horribly wearisome were the six days of steady, monotonous labour required to cover the short distance of thirty-seven miles which lay between Wakatimi and Parimau, and on Marshall's and Wollaston's shoulders fell the brunt of this work. Even after the arrival of the new coolies, and despite the energy and perseverance displayed by all hands, the depressing fact soon became evident that arrangements on a still larger scale would be necessary in order to accumulate a sufficient reserve of supplies at the up-river camp. As the result of three months' labour we had merely a surplus of ten bags of rice and a few of our own personal effects.

With the exception of a couple of days' work during the first journey, the natives of Wakatimi never again gave us the slightest assistance, and so little did they relish the idea of any form of manual labour that on the days when the canoes were being loaded they would desert the village, and keep out of sight until the last convoy was under way, and there was no longer any danger of their being impressed for the work. Keen as they were to obtain cloth, they could not summon up sufficient energy or determination to face a few days

POLING AND PADDLING

canoe paddling up the Mimika River. At first we ascribed this aversion solely to laziness, but, as we got to know them better, we came to the conclusion that it was as much due to their unwillingness to cross the boundary line between the up- and down-river tribes as to their natural sloth.

It was not long before our own coolies, who when first imported were quite ignorant of any form of canoe work, realised that it was necessary to master the rudiments of paddling and to work with a will in order to obviate the unpleasantness of having their evening meals postponed till after nightfall, and their tents pitched in torrents of rain. Unlike the Papuans they preferred to paddle in the sitting position, thereby losing driving power but gaining stability. Practice makes perfect, and after two or three journeys the more willing ones were as good with their paddles as any man could wish to find. Poling the boats, however, was quite another matter, and though all took their turn but few became proficient.

The intermediate camping grounds were fixed so that a stage necessitated six or seven hours steady work ; this distance proving to be as much as the coolies could accomplish in such a damp, steamy climate. The day's journey invariably ended in drenching rain, with the added joys of a sodden camp and smoky fires, and rarely, indeed, did fortune favour us sufficiently to allow of a dry resting-place and comfortable bed.

Accustomed as they were to the slothful life led by the inhabitants of the East Indian Islands, this heavy work and the attendant discomforts soon told on the health of the less robust coolies. Fever broke out, and together with sunstroke and boils, was soon responsible for passing twenty-five per cent. of the force into the hospital which had been erected at Wakatimi. The

TRADE ARTICLES

work of doctoring these men, as well as the sick amongst the Javanese escort and convicts, was one of Wollaston's duties. The Javanese at Wakatimi suffered even more than our own men, which would lead one to think that the Amboinese are the sturdier race of the two; the excessive amount of sickness at the base camp may, however, have been partly due to the lack of good drinking water—the river here being tidal, and the camp refuse swept backwards and forwards with every tide.

Had the Wakatimi natives been willing to assist in the paddling of our canoes, what stores of wealth they might have accumulated! Anything and everything they desired might have been theirs for the asking, whilst our overworked coolies would have been available for work at the head of the river, and in a position to transport the stores along the forest paths from Parimau.

Nearly all the trade articles were just what the savages wanted, but several of the things, though popular in other parts of New Guinea, found no favour in the sight of the people of this district. Jews' harps, for instance, were scorned, and the men and women would barely accept them as a gift, the few disposed of being utilised as earrings. Looking-glasses were also not appreciated. It was not that the men did not want to have a look at themselves, but that they did not seem to want to do it more than once. I would be the last to suggest that they were deficient in looks, or that vanity went for nothing with them, but however little pleasure they themselves received from the experiment, it was to us a never-failing source of amusement. The candidate in the beauty competition, for such it seemed to be when an expectant crowd had collected round, settled himself on his haunches, and when comfortable, confidently raised the glass before his eyes. This invari-

TRADE ARTICLES

ably led to the development of a broad smile—the first impression was good. But the longer he looked and the more carefully he examined himself in detail the more disappointed he became. The smile vanished, giving place to a look of surprise, and then, as the defects of hair, eyes, and nose became impressed on his mind, the confident air changed to one of disapproval. With a sigh the glass would be passed to the next competitor, who would be fidgeting in rear, eagerly awaiting his turn.

Beads, particularly large blue ones, were in great demand and readily bartered, but towards the end of our stay became a drug in the market; they at no time approached in value some ancient ones, oval in shape and light blue in colour, already in their possession before we arrived, and which had probably been imported from the Aru Islands.

To be the possessor of a steel axe-head is the native's highest ambition, but when he has obtained his wish it need not be expected that any further work will be got out of him, and for this reason they were but sparingly issued until towards the close of the expedition. An axe-head is a good thing to give in exchange for a canoe, or in payment of a prolonged period of work, but is too much to give for anything less. Knives also are much sought after, but the same thing applies to them as to axe-heads. No one wants to possess a dozen knives, so why do unpleasant work to gain more than is required. Empty tins, jam jars, and bottles are good articles of exchange, particularly kerosene oil cans; these latter are valued as forming a dry portable safe in which to store the family treasures. The very old and dilapidated tins are used to boil water in, and were considered a great improvement on the hollow bamboos or cocoanut shells which, until we arrived, were the largest receptacles

TRADE ARTICLES

used for this purpose. In the Mimika district many hundreds of these kerosene tins must have been accumulated by the savages, sufficient to make the present generation happy for years to come. Salt, a good trading medium in other parts, is here useless, as the people have a particular dislike to the taste. On this account they refused, even when suffering from hunger, to touch our dried and salted fish.

There is one thing, however, which the Mimika native never tires of and will hoard to his dying day, and that is cloth. Quality, colour, condition, and shape are matters of little import; as long as it is cloth, that suffices. Most of it vanishes into the aforementioned tin family chest, but quite a quantity is utilised as wearing apparel. A Papuan clothed in a vest full of holes, a torn and dirty old coat, or a shapeless cloth cap is not a pleasant sight, but is generally a proud and happy man.

The natives of Parimau quite appreciated the importance to them of making a corner in cloth, and did their best to control the market. On the arrival of visitors with articles for sale they would hurry over and tell us to pay for anything we might want in tins, bottles, or beads, but on no account to give cotton goods. Having thus arranged affairs to their satisfaction they would escort the strangers to our camp. If we offered some rubbish, such as an old tin in exchange for a bunch of bananas—which the Parimau men would not have sold under the price of a knife—they would exclaim with much enthusiasm, “Good, good!” “Take it!” and would congratulate their friends on the excellence of the bargain made. Still, greatly to the disgust of our neighbours, we generally insisted on paying cloth to strangers who brought fruit, if only to encourage them to come again with further supplies.

CHAPTER XI

A village brawl—Cooled ardour—A pig festival—Highway robbery—Restitution—Theft—Dishonoured notes—Wife beating—Our steam-launch—A transformation—The *Dreadnought*

FIGHTS and festivals, but more often the former, in the village of Parimau helped to while away the time and add variety to our rather monotonous existence. Occasionally the fights were on a large scale and affected the entire community ; at other times they were restricted to families or even individuals.

One morning, towards the latter end of April, we were awakened by a din sufficient to rouse the dead, and found men hurrying up and down the village street shouting and gesticulating wildly, in a fever of excitement. The quarrel ended in the usual manner by the able-bodied men rushing to arms and indiscriminately attacking one another. Several of them appeared to join in just for the sake of the fun, adding fuel to the fire and affording additional amusement to us. Whilst the main fight was going merrily on, these, starting on the outside of the crowd, would set to work to carve a way through with their clubs, and as soon as they had reached the other side, would turn about and start afresh. This horseplay was not resented by the remaining combatants, who were perhaps too engrossed in their own personal quarrel to pay any attention to this outside distraction. The peacemakers, of whom many were women, at length brought the fight to a close, but not before several severe wounds had been given

A VILLAGE BRAWL

and received. Two brothers strongly resented this truce; they were out for a fight and some excitement, and did their best to keep it up, going from house to house and challenging any and all to combat. It was difficult to make out what all the trouble was about, but it seemed that a woman was at the bottom of it, and as she could not be found, it was then and there determined that the entire population should set out for Ibo, seize her by main force if found, and, as they explained by graphic actions, cut her throat.

All were full of ardour, and preparations were at once made to put the plan into execution. Whilst the women were packing the sago bags and other impedimenta the men decorated themselves with plumes and got together their spears, bows and arrows, stone clubs, and in fact anything which might come in handy as a weapon. No doubt for our edification they did not neglect to ostentatiously sharpen their trade knives. Soon all was ready, the signal was given for the advance, and the march began with the more blood-thirsty savages in the van, whilst the laggards followed in a long straggling line. The preparations, however, had taken some time to complete, and as the desire for vengeance, at first so overpowering, began to cool, the more timid and peaceably inclined fell farther to the rear.

Some sat down to discuss the situation; others returned to search for mythical or mislaid articles, until at last the leaders, obliged to stop and see what detained the remainder, themselves sat down to investigate the delay and discuss the matter afresh. More talking and more quarrelling ensued, until it was finally decided that the great attack should be postponed till the morrow. Fickle creatures! When

COOLED ARDOUR

morning dawned the whole affair had been forgotten, or was not considered of sufficient importance to justify further action ; no warlike preparations were made, and the women went as usual to their sago swamp, whilst the men returned to their peaceful pursuit of canoe building.

Instead of the bloodthirsty raid which they had contemplated making upon their eastern neighbours, they were, on the following day, themselves peacefully invaded by the very men whom they had intended to attack. Had we not witnessed both events, it would have been hard to believe that such violent anger and thirst for revenge could have evaporated in so short a time.

The new-comers, received with open arms and treated as old and trusted friends, were soon housed, and as they brought a full-grown pig and plenty of food, were made doubly welcome. They proved to be the forerunners of a considerable influx from the villages lying to the east, and as the numbers grew it became evident that an event of great importance was about to take place. The housing accommodation was strained to the utmost, so much so that the new dancing hall had to be appropriated as a sleeping room, providing shelter to over thirty families.

An air of suppressed excitement pervaded all, and even the two village boars, who, sad to relate, were destined to play an important part in the proceedings later on, were galvanised into unwonted activity by the noise and the unusual number of full sago dishes placed before them.

For two days the music of the tom-toms was incessant, and culminated in an outburst of dancing and singing on the evening of the 3rd of May. At

THE PIG FESTIVAL

midnight the dancing ceased and the women retired, but the deep-toned note of the drum continued, each beat being followed by a howl from the men until the sun rose over the trees to the east. At an early hour a native appeared in our camp with the request that we should come over and see the show. As we approached children carrying drums were already marching down the beach, and there, taking up a position at the far end, started an orchestra of their own. Close behind came the two boars, driven into the jungle by weeping women, and thence by a hidden path back into one of the huts. As soon as the animals were safely housed the men formed themselves into a three-sided square, the flanks of which consisted of those armed with feathered spears and paddles, whilst the end was closed by the orchestra. Behind the musicians were grouped the women and children.

Chanting loudly the square advanced, being harangued at intervals by the headman of the village, who, when he had worked himself up to the proper pitch of excitement, terminated the scene by discharging two arrows over the tree tops—an action loudly acclaimed by the audience. A general move was then made to the village, where Marshall and I were given the position of honour close to a sloping platform which had been erected during the hours of the night.

After a short pause the men, armed with large rattan nooses, placed themselves on either side of the hut within which the pigs were confined, and at a given signal the animals were driven forth, successfully overpowered and trussed, their snouts tightly bound and chalk thrown into their faces and eyes. With a man seated astride each animal, and to the accompaniment of loud wails from the women, they were

THE PIG FESTIVAL

lifted shoulder-high, carried to the place of slaughter, and lashed to the platform.

The executioners with their clubs took up position, whilst the audience, numbering some two hundred souls, crowded closely around, and as the rain of blows fell, drowned the squeals of the victims by yells and the beating of drums. Death must have been instantaneous, but the basting continued until the carcasses had ceased to quiver, when for quite five minutes the entire audience gave itself up to unrestrained wailing and gnashing of teeth; the women hugging and clasping the carcasses in their unnatural grief, whilst the air rang with shrieks and tears coursed down every cheek.

Gradually the sounds of lamentation decreased in volume, only to break out with renewed violence as a three-year old child, painted from head to foot in a bright red pigment, was brought forth from a hut, lifted shoulder-high and carried to the now empty platform. In a flash the same thought passed through our minds; the boy was to be sacrificed! As the pigs had died so would he die! Slaughtered to make a savage holiday, or to fulfil some barbaric rite; and we were to stand by and watch it!—but no, not if we could prevent it. One hurried whisper, cameras were closed, and we were ready for action. What we would have done I hardly know, but fortunately active intercession was delayed until a more definite and critical stage in the proceedings should arrive. Foolish indeed should we have looked had we dramatically interfered at that moment, driven the crowd away and seized the child. As it turned out, no such barbaric practice as the sacrifice of an innocent child was contemplated. Far from killing the boy, all that was done was to carry him in triumph round the platform and then back into

THE PIG FESTIVAL

the hut. It was but the final stage of a ceremony of initiation into boyhood, and from what we could learn had some connection with the piercing of the ears ; a very different business to what we had expected ! Marshall and I glanced foolishly at one another, and smiled as we realised how near we had been to making ourselves ridiculous.

The ceremony continued. The dead pigs were now placed side by side in the village square, and the men took it in turn to leap over them and administer blows with heavy clubs as they passed. Twice was this repeated, and then, seizing the carcasses, the whole party jumped into the river. A general washing and cleaning up followed, after which the pigs, their legs lashed together, were carried solemnly towards the shore. The mob having been again harangued by the headman, the carcasses were cut up and the meat distributed.

The remainder of the day was given up to general jollification and good-natured horse-play in which the women had a particularly good time of it ; for once in a way they had the right to beat and cane the men to their hearts' content, and pay off old scores. The men were not allowed to retaliate, and if they wished to escape chastisement had to seek refuge in the jungle or in the deeper pools of the river. Little anger was shown, and everything was taken in good part ; the entire population was out for a day's amusement and made the most of it. The damsels were as bold as brass, and generally devoted their attentions to the best-looking young men, and that may account for the fact that they flocked over to our camp and attacked us in our stronghold. Here they thoroughly enjoyed themselves, until at last we rounded on them and gave chase in turn, administering corporal punishment to

HIGHWAY ROBBERY

the captured, an operation they seemed to like, and to which they surrendered themselves without one genuine struggle. Seeing them thus harmlessly at play, it was hard to realise that these same people on the slightest provocation become very demons of fury with passions utterly beyond control.

The day of festival, however, was to end with an incident, all the more unpleasant after the previous rejoicings and good-fellowship. Cramer with six canoes appeared round the bend of the river. As a rule the arrival of a convoy from below set the village in a state of excitement, the men rushing down to greet the new-comers and assist in unloading the stores, much of which they knew would finally come into their hands. On this occasion not a man moved, and the sounds of revelry suddenly ceased. We did not have to wait long for an explanation. Cramer brought the unpleasant news that our coolies, when returning from Parimau the previous week, had been robbed of much of their clothing at a point on the river not two miles below the camp, and that the people of Parimau had been recognised as the culprits.

We had noticed that the natives were rather truculent when the convoy started on that morning, and, as a precautionary measure, had supplied the overseer with a gun so that he might not be defenceless in case of emergency. In spite of this his heart failed him, and his twenty followers proved equally poor spirited, for when five unarmed savages met them and demanded their clothing, not one of them was man enough to offer the slightest resistance. What astonished us most was the cool impudence of the whole proceeding, for though the natives must have known that we would hear of the assault sooner or later, they had been

RESTITUTION

behaving since the episode took place in the most open and unconcerned manner.

Late as it was, it was necessary to inquire into the affair at once, and that the savages quite anticipated some forcible action on our part was shown when Marshall and I stepped into the canoe. The whole village was seized with panic, and within three minutes, and before we could reach the nearest huts, had cleared, bag and baggage, into the forest. The difficulty was how to get at the criminals. They and their friends could be heard skulking in the jungle close at hand, but it was a considerable time before we could see them and get an answer to our hails, for to have bearded them in the dense undergrowth would have been courting disaster. Finally a man, better known to us than the rest, peered from the cover of a great tree behind which he had taken refuge. To him we addressed ourselves, but in spite of the most persuasive epithets he would neither approach nor allow anyone else to do so until we had promised to retire the main part of our force across the river. He knew very well what we were after, and of his own accord promised to return the stolen goods. When the place had been cleared of our people, with the exception of Marshall and myself, the inhabitants began to trickle back, the innocent first, then the more guilty. Their behaviour was extraordinary. Instead of denying all knowledge of the theft they owned up at once, asking whether we really wanted the things back, and when told to bring them immediately, expressed the greatest surprise, and without more ado set about collecting the goods. These had been distributed amongst so many that not half could be found, though we were able to recover several blankets, trousers, jerseys and knives. I am finally convinced, however,

RESTITUTION

that all the articles that could be traced were returned, for the Wania people (a village situated three days' journey to the east) had also been in the business, and they had trekked to their distant homes at the first alarm. As a result of this unpleasant occurrence the day of jollity was transformed into one of gloom; all revelry ceased, the few remaining visitors left the village, and not a whisper broke the stillness of the night.

The question now remained as to *how* the delinquents were to be punished for their treachery. I think the course we eventually decided on was certainly the most politic, and likewise the most effective in the long run.

The inhabitants were collected, and clearly told what they might expect in the way of reprisals should anything like this ever occur again: they were then dismissed and the incident wiped out. To their credit be it said, the forbearance on our part was appreciated in so far that open violence was never again repeated. The lesson was taken to heart. Though we had sometimes been blamed for not taking more drastic steps to punish the marauders, such as burning down the village, the future showed that our action was the correct one under the circumstances. Had more severe measures been adopted, we should never again have had a chance of employing these men as carriers, and the expedition would have collapsed. Had one of them been shot or the village destroyed, I feel certain that the men of Parimau would have deserted for good and all, and that never another load would have been carried. It must not be forgotten that the shooting of two savages at Wakatimi in the early days of the expedition, though entirely necessary and justifiable, had almost led to open hostilities, which were only averted by one of

THEFT

the enemy coming over to us and disclosing the fact that the people were stealthily collecting large quantities of arrows in the vicinity. This had enabled Cramer to make such effective preparations for defence that the attackers became aware that their intentions were no longer a secret, and therefore that an attempted surprise would have no chance of success.

The Mimika Papuan is not an adept thief, carrying out the business in such an open and flagrant manner that immediate detection is the result. He will appropriate anything left lying about if he considers it of any use to him, and if he picks up a fallen article on the road he looks upon it as his rightful property.

On the whole, however, we lost very little, and what things were missed from the cook and store houses can with more probability be put down to the account of our own men, as every native in the East Indies is an expert in the burglar's art. I imagine there is little, if any, stealing among the Papuans themselves. They seem to take a pride in deceiving one by deliberate lying, and when detected show more amusement than shame; they have hardly the requisite amount of brains ever to become highly successful exponents of the art. What they lacked in skill they made up for in cunning, and one little affair in particular showed how their minds were continually working to get the better of us. Such simplicity can hardly be believed possible, but the most remarkable thing to their minds was the manner in which the plot was detected. It happened thus.

As we had no system of runners, we found it convenient to give notes and letters to be delivered by the Papuans who were returning to the camps, and the effect these strips of paper had upon the savages was the cause of much amusement, for it was quite beyond the comprehension of the bearers how the missives could

DISHONoured NOTES

convey any kind of information. Later on, when the notes often meant the reward of an axe or a piece of cloth for work accomplished, and they found that payment was made immediately the paper was opened, they became highly interested and hugged their payment orders as if they were bank notes, as, in fact, to them, they were. We had only to give a man a note and say that it represented an axe or whatever the payment was and he was perfectly satisfied. As they were never deceived they trusted us implicitly, sometimes not coming up for payment till many days had elapsed. This prompt exchange on the presentation of a slip of paper awakened their cupidity, and set their cunning brains to work.

If one piece meant the gift of one knife, they reasoned, then why not hand in half a dozen slips and receive half a dozen knives. No sooner was the simple plan thought of than it was put into practice.

When, shortly afterwards, Marshall was paying a string of Papuans according to what was written on each man's paper, four or five of the village loafers joined the line, and with a calm and confident air handed in three Lemco labels and two strips of the wrapping. Great was the indignation and loud their protestations at the unceremonious way in which their papers were treated, but there was not a sign of embarrassment or shame. The failure upset their calculations for a time, but they were quite determined to have another try. How we could have told the difference between one paper and the other was the point that puzzled them, and so they put their heads together, and the reasons were thoroughly thrashed out. The result of their deliberations was soon evident.

I had sent Wallaston a note, twisted in the form of a billet-doux, requesting him to pay something to the

WIFE BEATING

carrier. With this was presented a second paper twisted in identically the same manner, and purporting to come from me. Unfortunately, however, there was nothing written inside. In spite of indignant protestations and declarations that it meant an axe head to be given to the bearer, this great coup came to nothing; and to be turned out of camp with empty hands, and to the music of ribald laughter, was heart-breaking. After this failure nothing more was attempted in the same line—it looked so simple and yet never bore fruit; and as forgery was out of the question, the idea of obtaining goods by this means was abandoned.

What with profitless attempts to cheat, lying which brought no ultimate gain, desertions on the road which forfeited pay already earned, and lastly, stolen goods which had to be restored, the savages at length began to realise that it was better to be fairly honest and so to be punctually rewarded, than to be permanently debarred from sharing in the wealth which was slowly accumulating in the huts of the steadier men of the village.

As their worldly goods increased the ferocious brawls diminished in frequency, until there was very little in the behaviour of the natives of which we could reasonably complain. It takes more than a few months, however, to change the nature of a savage, and brutality was by no means uncommon amongst them. One day, for instance, I saw a man rush at a woman, and with one blow of his club fell her to the ground. Fortunately the blow was a glancing one, merely lacerating her scalp and knocking her senseless. But although this deed was done in the midst of the community, and witnessed by many, no one seemed to take the slightest notice, until, ten minutes later, another woman crept up to attend to the unfortunate victim. Ordinary

OUR STEAM-LAUNCH

wife-beatings were of frequent occurrence, and during the still hours of night the shrill cries of a woman in pain often reached our ears. Still, on the whole, there was a marked improvement in the general behaviour of the community.

These remarks apply only to the Parimau and up-river people, for the Wakatimi native remained to the end as objectionable as he was in the beginning—in fact he rather deteriorated. In his case increased wealth meant a more slothful life and greater leisure to spend time under the sugar-palms, getting drunk. Even the headman, one of the best natives there and a man who had been of great assistance to us when we first entered the country, took so heavily to drink that he succeeded in killing himself before we left the country.

In May I moved back to Wakatimi, to take my turn at the never-ending transport work. This task of trying to accumulate stores at Parimau appeared hopeless with simple canoe transport, for the load of each convoy was eaten up before the next supply arrived, and it became evident that unless some form of mechanical transport could be obtained, a definite forward move was out of the question. We had already tried the experiment of working with a steam-launch, borrowed from one of the relief ships, but it had resulted in failure. The engine was of very low power, and after a slight collision with a sunken log a mile from the start, was unable to make any headway against the current, whilst with laden canoes in tow she actually lost ground. No shock of collision had been felt, but the fact of the shaft being bent was sufficient to show what had happened. After being floated back to camp she lay idle for a month, and was eventually returned to the parent ship.

As the result of this experience the relieving ship

A TRANSFORMATION

showed no eagerness to repeat the experiment, and Goodfellow decided to cross to Dobo at the first opportunity to see if it was possible to purchase a motor boat from the pearl fishers. Pending the arrival of this boat, there was little to do except to search for some navigable creek by which we could move from the Mimika to another larger and more navigable river to the east, a river which might afford an easier approach to the mountains, and still enable us to use Wakatimi camp as a base from which to draw supplies.

How Wakatimi camp had changed during the few months I had been away in the interior! Where, before, nothing but primeval forest was to be seen, there now stretched rows of neat, roomy huts and fenced-in gardens, covering an area of three or four acres; these gardens were planted with all manner of Indian corn, bananas, papayas, chillies, and other tropical produce, systematically arranged and divided by neat paths. Immediately behind the houses lay the open drill field for the soldiers of the escort, and beyond this the burial-ground—Stalker's grave no longer the only one there. Along the river front were the bathing and washing pools, near which alligators, and now and again a shark, would suddenly appear; though they never did any harm, their occasional appearance lent some excitement to the soldiers' monotonous lives and supplied them with a topic of conversation.

From the north end of the camp a strong, solid pier now stretched far into the river, by means of which boats were easily and expeditiously unloaded.

The houses, which were well built and airy, were all of the same type, a framework of wood being covered with pandanus leaves and matting; the latter article mostly made by a few industrious natives living in the small village of Tourapaya, just north of the camp.

THE "DREADNOUGHT"

Apart from the fact that the site was bad, being nearly flush with the water, no camp could have been better laid out, and the manner in which it had been planned and built reflected great credit upon all who were engaged in the work, and more particularly on Cramer. The position itself was the only one possible, for there was no elevated ground within the tidal area. Had a site been selected farther inland, it would still have been liable to periodic inundations, and on account of the shallowness of the river would, moreover, have often been beyond the reach of any launch sent by the visiting ship.

This low-lying, swampy plain, which extends along the coast almost from end to end of Dutch New Guinea, is a serious drawback to successful colonisation, and will constitute an almost insurmountable obstacle to the progress and civilisation of the country.

With the object of looking for this inland passage to the east, I one day took the largest canoe and four men, and proceeded down stream to Atabo, the fishing village at the mouth of the Mimika. It was unsatisfactory work, for though the men of Parimau told us there was such a passage they could not show us the way, whilst the men of the coast tribes flatly said the route we were looking for was quite imaginary. For the journey I used the *Dreadnought*, an immense canoe, originally purchased by Marshall. So great was her beam that a small camp bedstead could have been opened and laid out inside, and as she had proved far too heavy for convoy work on the upper reaches of the Mimika, she was mainly utilised for bringing stores from the coast to Wakatimi, particularly when the ship's launch was ready to lend a hand at towing. Tide and wind being against us on this occasion, it took the whole day to reach the mouth of the river, only four and a half

QUESTIONINGS

miles away from camp. There, indeed, I was lucky to obtain a view of the mountains entirely free from cloud—a most unusual occurrence—and was enabled to fix the position of the snows and prominent peaks for the survey. The outlook was grand in the extreme; the blue mountains, the snowfields, glaciers and pinnacles showing up clearly above the dark green of the forest. How beautiful they were; but how distant! Could we ever reach them by the road we were following? Would the coolies last out under the strain? If so, would they be able to climb those rugged peaks? To these and many other questions one's heart regretfully answered "No." "You must return, reorganise, and start afresh on some greater river to the east!" But was this possible? At Wakatimi a town had been constructed, and in it were piled more than enough stores to load a ship, much of it our own, but the greater part belonging to the Dutch escort. Could we ask a generous foreign government which had brought us here at great expense to take us back and despatch the whole expedition afresh in another direction? Was there a reasonable chance of our being supplied with a suitable class of coolie? Could fresh funds be raised, good mechanical transport obtained, new food-stuffs purchased, and another six months spent in reorganising? There was only one answer, "No!" It was too much to ask or to expect. For better or for worse we must carry on where we were, making up our minds to struggle on eastward through the forest and across the foothills, to work at the survey and at the collections, until the best that could be done was accomplished and the snows approached as near as possible.

CHAPTER XII

The village of Nimé—An inundated village—A timely rescue—Barter and exchange—Clubs—Strategy—Second trip up the Kaiqua

HAVING explored two or three creeks and found that they only led into the heart of the mangrove swamps, we entered a passage directly opposite to the night's camp, and by far the largest and most promising opening as yet seen. The tide was running strongly against us, and with only four paddles at work progress was very slow, when suddenly a canoe-load of savages, appearing from nowhere, ranged alongside, and the occupants taking it for granted that we required their services, soon had the old *Dreadnought* moving through the water at an undreamt-of rate. For two miles or more we traversed a channel 300 feet wide, running parallel to the coast, and then, turning sharply to the south, entered an overgrown creek which had nothing to distinguish it from hundreds of others lying on either hand. After forcing a way for half an hour through a tangled mass of branches, we unexpectedly entered a landlocked bay, on the shores of which is situated the village of Nimé.

The village stretches along both sides of the bay, and consists of several hundreds of huts which, on account of the limited space available, are built so close together that two or even three rows are required to house the large population.

The excitement occasioned by our sudden arrival was intense, the whole population at once taking to its

THE VILLAGE OF NIMÉ

heels and fleeing to the jungle. Seeing, however, that no other canoes accompanied us, the savages soon plucked up courage and returned to the shore, the men placing bunches of leaves in their armlets, and the women casting handfuls of sand into the air or flinging clouds of powdered chalk out of hollow bamboos, in order to make clear their peaceful intentions. Grounding the boat opposite the most important cluster of huts where the natives were collecting in large numbers, the Gurkha Havildar, Mehesur Singh, and I stepped ashore and were escorted to a shelter of leaves beneath which the head-men had already assembled to greet the stranger. Here, after much solemn handshaking, I distributed amongst the NATUS (the head of each family) some tobacco, and in return received a native cigarette made with great care by the oldest man present; the ice having been broken by means of these courtesies, an animated conversation was begun, the Papuans imparting what news they thought I desired, and I doing my best to make out what was said, both sides thoroughly enjoying themselves, and filling up an amusing half-hour. Question them as I would, little of value was learnt beyond the reiterated statement that there was no way eastwards except by the sea route, and that nothing was to be gained by moving further up the river Kaiqua, or entering any of the creeks close at hand. The cigarettes finished, I was shown round the village, accompanied by all the men and half the children, and sundry uncommonly friendly pigs. This inspection over, our next care was to find a camping ground. Though the natives wanted us to stay in their midst, we did not relish the proximity of the overcrowded village and, having already seen a secluded and sheltered spot on the opposite side of the bay, I declined their well-meant invitation.

AN INUNDA'TED VILLAGE

A large fleet of canoes escorted the *Dreadnought* to her new moorings, and many willing hands made light of the work of clearing the ground on which we were to camp, and assisted to set up the tents. It was indeed fortunate, as it turned out, that we had this sheltered site, for had we stayed in the village we should have suffered as much if not more than many of the unlucky natives did that afternoon. Assisted by a strong south wind, the tide rose to such a height that the waves poured over the sandy spit on which the huts had been built, demolished many of the walls, and carried the sandy floors into the creek beyond. Most of the upright poles even were washed out of the ground, and with them fell the roofs. The wretched people took refuge in their canoes, but were compelled to stand by and witness the havoc wrought on their homes, the surrounding country being one vast mangrove swamp without a foot of land being visible at high water. Such events must be of common occurrence, and as on this occasion there was nothing more than a strong breeze, when a southerly storm bursts I cannot understand how any vestige of the village can remain standing. The natives of Nimé do not follow the fashion of most other coast tribes in New Guinea, who erect their habitations on piles, but why this is so we could not discover. I believe I am right in saying that in no other place along the entire coast is it the custom to construct huts close to the ground; sometimes they are built on piles and sometimes in trees, but always in a position safe from inundations.

Whilst watching the inrush of water through the narrow entrance to the bay, a small urchin, splashing about with many others, was carried off his legs, and before any of the other boys could help him, was whirled

A TIMELY RESCUE

out into the race. The alarm was given in a moment. A crowd of women raced down the beach and tried to intercept him by forming a string of hands, but he was swept past them in a moment and out into the midst of the tumbling waters. Like all coast Papuans he was a fine swimmer, but struggle as he would, he could do nothing against the current, his one thought being to keep himself afloat. It seemed that nothing could live in the turmoil of seething water. One moment he would be seen to spin round and round, the next to vanish, and after a pause to come to the surface again like a cork, until it appeared a marvel how any breath could be left in the small body. Each time he vanished I thought he was done for, but the little black head kept bobbing up, to be followed by an arm raised appealingly for assistance. No one on our side of the bay could do anything to save him, as the canoes had all been berthed in the creek behind; help, however, was at hand.

From behind the village a boat shot out, driven like an arrow over the waters, a brawny hand seized the woolly pate, and an inert mass was dragged over the side and out of danger. A crowd of women at once carried him to his home, where he must have been well looked after, for when presented to me on the following day, he had quite recovered, and appeared much pleased with his adventure. Had he been a girl, I doubt if they would have taken half so much trouble to save him.

Whilst watching this incident the tide had invaded our tent, but as we were in a sheltered position, this caused little inconvenience beyond leaving the sea scum over the floor, a very different state of things to the rows of bare hut poles in the village opposite. As the tide fell and their anxiety as to the security of the rest of the village diminished, the natives visited me in

BARTER AND EXCHANGE

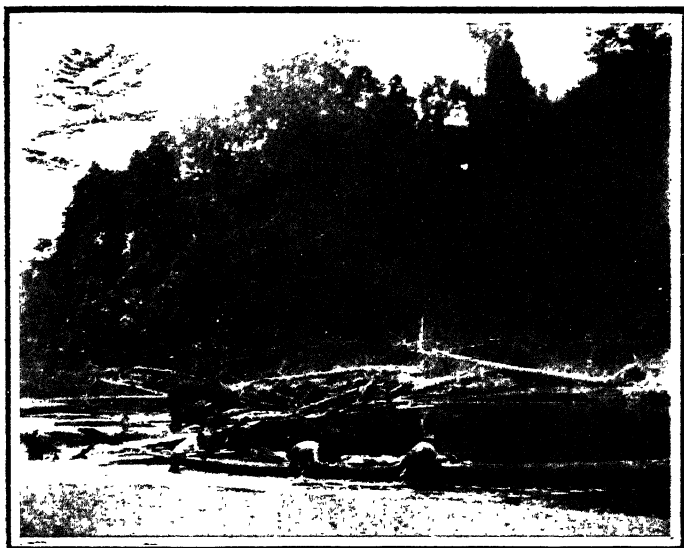
hundreds, showing their hospitality and desire for trading by bringing forward bananas, cocoa-nuts, &c. Amongst the etcetera must be included the wives and daughters, the men being most anxious that some of their female belongings should stay with me; and I must say the damsels were in nowise backward in displaying their charms and graces. They showed such evident signs of disappointment at my refusal that had I been tempted to live long amongst them, it would have been difficult to resist a feeling of vanity. The prices demanded were not exorbitant, and as no business was doing, gradually dropped from a handkerchief to a few beads. Darkness fell at last, and I was left in peace.

The next morning the village was fully explored, and a few odds and ends purchased. Papuans take a great pride in escorting a visitor round their village, and point out each object they consider of interest. As may be imagined, a white stranger is followed everywhere by an interested crowd of men and boys, though the women as a rule content themselves with inquisitive peerings from the interior of the hut and from the doorways. They will trade away anything, and one's approach is the signal for the whole of their worldly goods to be slipped outside the hut, on the chance that some article may catch the stranger's eye and a sale be effected. Clubs are stuck into the ground, spears leant against the roof, and bows and arrows, sago dishes, and even human skulls laid out, so as to show to the best possible advantage. After dusk is the usual time for clandestine trading, the approach of the seller being heralded by the customary deprecating cough. At Nimé the adoption of this time for doing trade appears to be due to the fact that many of the natives

CLUBS

are either not allowed to sell at all, or object to be seen bargaining in the face of the whole community. What we were then most eager to purchase were stone clubs, weapons which do not deteriorate with keeping, as happens so often when other native articles are bought and put away for a few months in a damp hut.

Some rough kind of club was probably man's earliest weapon, at first formed entirely of wood, to which later on a stone head was fitted. Both kinds are used here, but of the two the one made with the stone head is far and away the most popular. The head may be of coral, limestone, or sandstone, of a necessity brought from great distances, as no stone of any description is to be met with away from the mountains to the north. It is with these barbaric instruments that quarrels are settled, whether for wife-beating or for repelling the attack of hostile tribes. Either as an outlet for their ingenuity or to make the weapon more effective, the large majority of the stone heads are carved so as to leave projecting points or ridges, and when in the hands of a powerful savage are engines of destruction by no means to be despised. The heads alone weigh anything between 4 and 8 pounds, and must take weeks to complete. The iron imported by the expedition came as a godsend to the manufacturers of these weapons, and it was not long before the Papuans saw one of our steel files in use and begged the loan of it for a short time. The result was a weirdly-fashioned club-head and a worn-out file. Further borrowings were discouraged, and they had to fall back upon any scrap of iron or old meat tins they could pick up around the camp. To show how little they knew of the properties of iron and steel, we saw a man one day trying to break a stone with a good butcher's knife he had just earned by much



FORCING THE CANOES PAST THE TIMBER BLOCKS ON THE MIMIKA

These dams are to be found every few hundred yards from its source to within ten miles of the sea.



A PARTY OF PAPUANS TRAVELLING FAST ON THE KAIQUA RIVER

With five or six men paddling, the canoes can be driven through the water as fast as or even faster than the launch.

STRATEGY

labour, and it was quite a common sight to see a carving knife so chipped as to be nearly useless even on the first day it had come into the possession of its owner. Now that we have left their country they probably appreciate the value of the metal, but it is unlikely that they will get any more for many years to come.

The next day a short journey up the Kaiqua River confirmed the statement of the natives that it was useless as a route to the east. The river was but a large jungle creek. With the crowd of canoes which hemmed us in on every side fast progress was out of the question, and the farther we got from Nimé the less we liked the behaviour of our escort. They became familiar and noisy, jostling their canoes into ours, one or two of the savages even trying to get on board. As there were but five of us, three of whom were unarmed coolies, and as nothing would have been easier than to upset the canoe, in which case our weapons would have been useless, we decided to return without giving warning of our intention. Waving the natives aside for an instant, the boat was quickly turned, and before they knew what we were after, was heading down-stream. I am not sure whether these people really had any hostile intentions or not, but the shout that went up at this action of ours lent colour to the supposition. For a few moments they were nonplussed at this unexpected move, and then, either seeing that we were suspicious or that we had some other plan in view, they paddled away for Nimé as fast as they could drive their craft through the water, and thus it happened that on the return journey we were deserted. We knew, and probably the natives did likewise, that had disaster, either through accident or foul play, overtaken us during any of these side expeditions, no one in the world would ever have been any the

SECOND TRIP UP THE KAIQUA

wiser. At any rate, when one has received a warning, it is better to be wise before than after the event, and if nothing of importance is to be gained by proceeding, then why run an unnecessary risk? We again spent the night in the village of Nimé, and I will say this much for the men, that their behaviour was otherwise exemplary.

Later in the year a second trip was made up the Kaiqua, when it was found that the river, though possessing a splendid mouth, soon narrowed and became an ordinary tidal creek. For twelve miles it was just navigable for a small launch, and proved to be the highway to a small and flourishing village of the same name. Not that it was inhabited at the time of our second journey; there were, however, so many evidences of its being occupied during a considerable period of the year, and such large areas of cocoa-nut and banana plantations lay close around, that there was no doubt in our minds that it must have developed at certain seasons of the year into quite a populous place. On this second trip two natives of Nimé were taken as guides, and as they showed no objection whatever to our going where we liked, the desire to keep their inland village a secret could not have been the reason for their peculiar behaviour during the first attempt to advance up the river.

When about to leave the country for good we found out that their positive declarations as to there being no creek running to the east were false; a passage navigable for canoes lies behind a low flat island near Nimé, and the natives frequently make use of it in order to reach the Timoura River, by this means avoiding the sea route. This channel was kept from our knowledge, for the simple reason that they did not desire us to move in that direction, as they feared to lose the monopoly of our trade goods which they at present enjoyed.

CHAPTER XIII

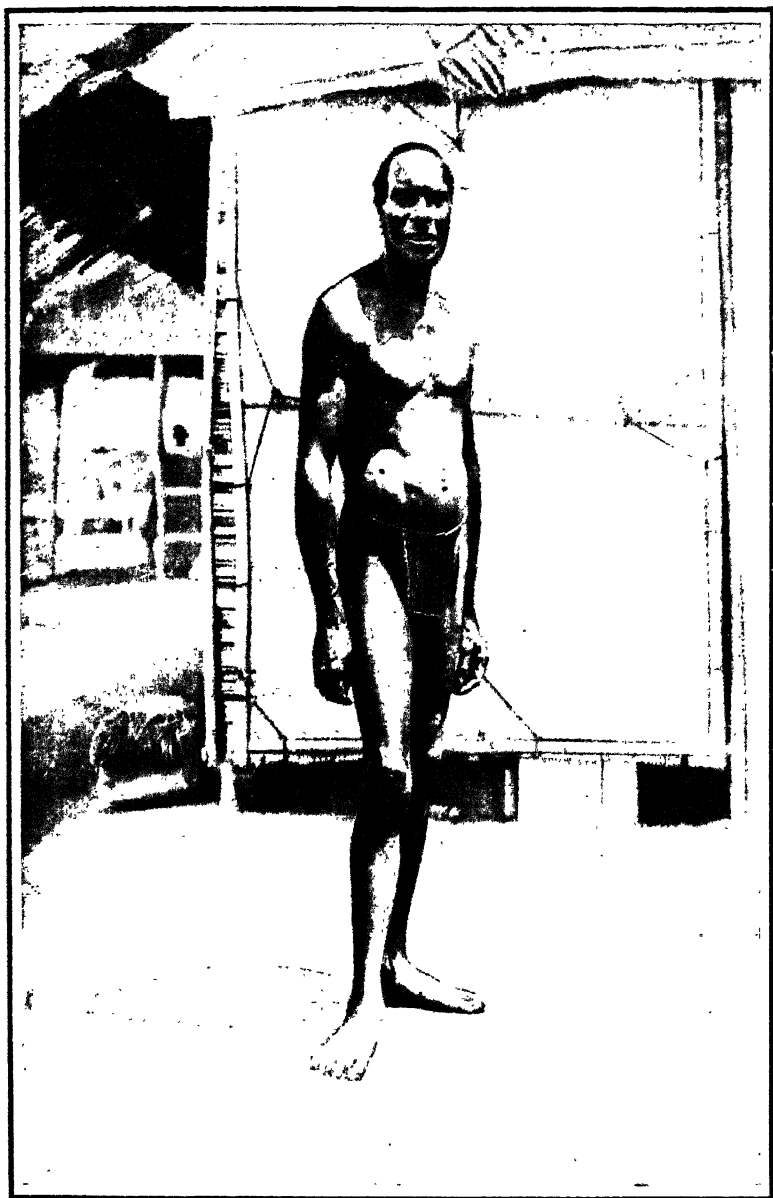
Coast and up-river natives—The headman of Nimé—A dignified character—Native curiosity—Photographs and pictures—Native drawings—Novelty and amusement—Scenery on the Atoeka—An albino—Buying a motor launch—Collapse of a village—A miserable experience—Halley's comet—An enjoyable change

NOT only in habits and manners but also in build, and to a lesser extent in colour, there is a noticeable difference between the coast people of Nimé and those of Parimau—the former typical representatives of the coast tribes, the latter of the up-river natives; this in spite of the fact that but thirty to thirty-five miles separate the villages, and that the altitude is practically the same. Along the coast the skin is almost invariably of a dull black colour—the lead black of the stove without the shine, as it has been described—whilst amongst the natives living at the head waters of the rivers it is of a distinctly lighter shade, more of a deep chocolate. The coast men, though of immense strength, with bull-like necks, and chests and arms of herculean mould, cannot compare with the Parimau men for symmetry of build, activity, or grace of carriage. Both physically and mentally they appear to conform to a lower type, and, with few exceptions, are brutish in face and figure. The women are horrible, except when young, and even then cannot be described as prepossessing, and it is hard to see how either the Dutch or the missionaries can hope materially to raise this race from their present depth of degradation. Low as they may be, they are by no

THE HEADMAN OF NIMÉ

means on the bottom rung of the ladder, for the tribes living farther to the east are of a still more depraved type, and so savage that it is impossible to get on intimate terms, or, in many districts, to approach near enough even to converse.

Now and again one comes across a distinctly superior type of man, as it were an oasis in the desert of savagery, all the more noticeable by comparison with the people amongst whom they live. Such a one was the headman of Nimé, the same who had been taken aboard the *Nias* on our first arrival in the country. Of perfect proportions, with an intelligent and pleasing countenance, a word of his carried more authority than was the case with any other man along the coast. He adopted the outer signs of civilisation with as much ease as a sponge absorbs water, and comported himself with such decorum that he was allowed the free run of the base camp, and was never known to abuse the privilege. His dignity was enhanced, so he thought, by the adoption of a straw hat, a torn khaki coat, a pair of worn-out trousers, and an old pair of shoes three or four sizes too small, and unless adorned with these dilapidated articles he rarely approached our huts. Yet even when so disfigured, he still retained a more imposing manner than could be assumed by any of our half civilised coolies from Amboina and Macassar. He would arrive unobtrusively and sit down until we were disengaged, then advance with a dignified step, raise his hat, and shake hands. When the time came for him to take his departure, he would again shake hands, place his right hand over his heart, and retire to his canoe, there to remove all vestige of clothing and become once more the Papuan pure and simple.



A HEADMAN

The headman of the coast town of Nimé, and a good friend to the expedition. Behind is Lieut. Cramer's house made of matting imported from Java.

NATIVE CURIOSITY

His elder wife, the one with the highly-tattooed back, occasionally used to pay a visit to the Malay wife of the Dutch quartermaster, on which occasions she would appear in a skirt of red trade cloth. Not a word did either know of the other's language, but this did not matter, as they were quite content to stare at each other, without speaking, for hours at a time. The chief's younger wife was not permitted to take part in these jaunts, possibly because she was by far the best-looking girl in the district, and the more she was kept in seclusion the better it was for the husband. The Major (as this headman was called by the Dutch) and his wife were born traders, and when business was slack would wander round the camp begging with an insinuating smile for any article which took their fancy. Nothing came amiss—tins, bottles, paper, old rags and boots, all would have some value sooner or later, and so were added to the piles of rubbish which encumbered the floors of their huts. His own canoes he would never part with under the price of two axes, but if we wanted any belonging to another man he would get them for us for an axe-head apiece and a small present for himself.

Our visit to Nimé brought another fact home to us, namely, that if privacy is desired, it is unwise to camp in the close proximity of a village. One's every movement is followed by an expectant and ever-watchful crowd, and the people will follow one into the jungle or peep under the flies of the tent rather than lose sight of you for an instant. Some will smoke on in silence, others will make *sotto voce* remarks about whatever may strike them as out of the common, but never for a single instant are those dozens of pairs of eyes moved one inch away. Whichever way you may

PHOTOGRAPHS AND PICTURES

look you will find eyes riveted upon your face, until tired of the ceaseless scrutiny you invent something to distract their attention.

For this purpose the photographs proved a never-failing source of amusement and interest, and though only of quarter-plate size, were examined with shouts of joy. Portraits were at once recognised, those of the pygmies being received with jeers, and those of the up-river men when shown to the coast people, or vice versa, with scowls and mutterings of disapproval. The subject of a photograph, if present, usually assumed a sickly grin and would refuse to look. Pictures from *Country Life* and other illustrated papers were subjected to the minutest examination; and, as may be imagined, photographs of such things as horses and cows caused much perplexity. Every animal had to come under the category of dog, pig, wallaby or cuscus, for it must be remembered that, with the exception of these four beasts, the Papuans knew of no animal greater than a rat. One could not help laughing when the Derby winner was described as a pig, or when some of them placed a Highland bull in the same species as a cuscus, whilst others maintained it was a dog. The kind of picture they thoroughly disliked and feared were those of the *genre* of Caton Woodville. Such for instance as a furious white man armed with a spear riding a foam-flecked charger with staring eyeballs and steam issuing from his nostrils, and bearing down at full speed upon the spectator, proved more than they could stand. With these pictorial horrors of the outer world they would have nothing to do, refusing even to touch the paper upon which they were printed.

The crowning joy, however, was supplied by the

NATIVE DRAWINGS

portraits of peeresses, actresses, and the famous beauties of England. The Ah! ah's of astonishment were accompanied by thumpings of the chest and other expressions of surprise and joy. I hope these ladies will not take it amiss that Marshall and I claimed them all as our wives. The savages themselves first put the idea into our heads, and as it was obvious the mere suggestion had caused us to rise immensely in their estimation, we were shameless enough to fall in with their views and to claim the lot. We divided them equally between us, now and again awarding one to Wollaston (who was absent), and naturally giving him the ones we admired least.

The examination of these photographs led to an exhibition of native draughtsmanship which, however interesting in itself, was not characterised by much skill, the pictures being rarely equal to what could be produced by an English child four or five years of age. These drawing competitions usually took place at Parimau, where, seated cross-legged on the floor the natives would remain for hours absorbed in their work, though, as Shortridge learnt later on, this industry was in part assumed in order that they might, sooner or later, obtain an opportunity of pilfering his skinning tools when his back was turned. The objects which they generally chose to illustrate were naturally those with which they were most familiar, such as men and women, dogs, birds and fish. The eyes of the human beings were made large and round, the feet and hands of immense size, each toe and finger being well separated from its neighbour and drawn quite irrespective of the correct number. As long as these points were well marked and the position of the armlets and knee-bands satisfactorily settled, other details of the body were

NOVELTY AND AMUSEMENT

considered of little importance. One could distinguish in a moment what bird they were trying to draw, whether hornbill, parrot, or crown pigeon, as they at once picked out its particular characteristic and drew the remainder of the bird around it. All four-footed animals looked alike in their pictures though, curiously enough, both birds and fish were often drawn upside down. The reason for this we were quite unable to fathom, as otherwise the men showed no signs of astigmatism.

The works of a watch aroused much interest, but as the thing was evidently alive, they did not consider that there was anything very curious about its making a noise. Likewise with the mechanical pig; all pigs walked, so why should not this one? Now a Teddy-bear is different; this was an entirely new form of animal, and of such alarming appearance that, with bulging eyes and every sign of outward terror, the burly throng recoiled several paces at the sight. An aluminium basin! Splendid! Was there anything like it in the world? This must be passed round, weighed and minutely examined; balanced and patted, and again weighed: it was a never-ending joy. A nasty thing a pistol!—it bored holes in trees, but shot no birds or other food, and was therefore soon rejected. A gun was quite different; it certainly made a horrid noise till you got used to it, but had the compensatory advantage that it killed pigs and birds.

And so the game went on, full of novelty for them and amusement for us. One day I tried them with piccalilli pickles, a form of food that was highly disapproved of; mustard was put in the same category, and curiously enough so was salt, a commodity so highly prized in other parts of New Guinea that the

NOVELTY AND AMUSEMENT

natives will accept a teaspoonful as a day's payment for carrying a load. The Mimika Papuan has so great an aversion to salt in any form that, even when hungry, and though it is offered as a present, he will refuse to partake of salt fish. Tea was greatly appreciated; but, judging from their first and only experience, it may safely be said that the natives will never take kindly to whisky. At his own request I once gave a brawny savage a tablespoonful of this latter beverage, his friends, as was invariably the case when experimenting with food, standing by to watch the effect. He was told to drink it straight down and not to sip it, and as his mouth closed on the last drop his body became rigid, and then appeared to swell, his eyes started from his head, and with a slow and desperate air he grasped his throat with a vice-like grip. "Ah! Ah!" burst from the lips of the spectators absorbed in the tragedy being enacted before their eyes. To the uninitiated I can well believe the performance proved a thrilling spectacle, for as gasp followed gasp in rapid succession, tears welled up to his eyes, his hands travelled from his throat to his abdomen, while the look of terror on his face grew in intensity. He departed a sadder but a wiser man, thankful that the fell poison had not claimed him as a victim.

Altogether they caused us infinite amusement when not too talkative, but when they once became loquacious the assembly had to be dissolved, for much talk, like wine with some Europeans, caused them to become familiar and bothersome.

On the 18th May, having accomplished all that was possible at Nimé, we returned to the Mimika mouth, and as there was no immediate necessity for us to arrive at Wakatimi, struck off to the west at the junction of

SCENERY ON THE ATOEKA

the Atoeka and Mimika Rivers, and followed for a few miles the stream traversed by Wollaston, Cramer, and Marshall six weeks before. At a distance of three miles we entered the Atoeka proper, and with the men paddling hard covered another eight miles. The forest here was of an entirely different description to anything I had previously seen, for though the vegetation was similar, yet the number of dead trees and the quantity of cocoa-nut and tobacco plantations gave an open and airy appearance to the whole. It seemed, however, to be an unpopular spot, for neither a hut nor a native was to be seen. The river began to narrow considerably, and as it had the appearance of an ordinary jungle-fed stream, we decided to camp for the night and to continue the journey on the following day, solely for the purpose of adding to the map. At this moment three canoes filled with paddlers from Obota overtook us, all full of vociferous talk and questions as to why we had passed by their village and entered this useless and uninhabited river. If we would only return and sleep at their village, they would give us bananas, cocoa-nuts and tobacco, as much as we required, and in addition would paddle the canoe. So back again we went, thoroughly appreciating the novelty of being driven rapidly through the water without any exertion on our part. Turning at the junction of the rivers, we were soon in a narrow channel through which raced the muddy waters of the Kaparé. Passing between rows of huts lining both banks of the river and accompanied by a crowd of women and children, we drew up opposite an island cleared of trees, and there pitched camp.

The men were as good as their word in bringing fruit and tobacco, though, instead of offering them as gifts, they demanded exorbitant prices. The supply

AN ALBINO

being immense and the demand limited, there was soon a regular slump and the canoe was half filled with fruit by the expenditure on our part of a few handkerchiefs and a handful of beads.

It proved to be a delightful spot. Acres of land were thickly planted with bananas, over which rose an occasional cocoa-nut tree, whilst up stream were numerous tobacco plantations.

As the people were most anxious to show off the advantages of their village as a place of residence, I took the opportunity of thoroughly exploring their homes and household goods, all of which were displayed to the best advantage in the obvious hope that they would appeal to us and lead to the clinching of a bargain. The weapons and utensils were of the usual kind, added to which there were dozens of human skulls grinning from every doorway, things which at this period of the expedition were not really required. Nevertheless something had to be bought, if only for charity's sake, for it was pitiable to watch the looks of disappointment as the most cherished goods were passed by almost unnoticed. One article caught my eye, a thing one would least expect to find in this out-of-the-way place, a large Chinese jar of considerable age, but upon the value of which small store was set. It had been in possession of the village for many years, so I was informed, and had originally been brought over by the natives of the Kei Islands, with which place these people seem to be acquainted. I understand that the Kei Islanders do occasionally visit these shores, which may account for the various pieces of scrap iron found scattered throughout the district.

It was at this village that the first albino, a pink baby, was seen, though the parents were coal black.

BUYING A MOTOR LAUNCH

Its skin was entirely free from the unsightly blotches which formed so conspicuous a feature in the two other albinos of the district whom we saw later on; it might have been taken for an European child but for the very pale colour of its grey eyes.

The people were most averse to our departing for Wakatimi on the following day, and with their arms full of sago dishes, spears, skulls, &c. stood on the bank attempting to drive one last bargain, until we were lost to sight round the bend.

Six days later, that is to say during the last week in May, a fresh attempt was made to discover the passage to the east; fate again ruled, however, that the Wania should never be reached this way, as on our arrival at the mouth of the Mimika there, two miles from the shore, lay the relief ship *Zwaan*, and approaching the harbour was her launch. I went on board, and whilst the stores were being transferred to land enjoyed a most excellent lunch with Commander Rothmeyer.

We were aware that the pearl-fishers at Dobo possessed two or three motor boats, and as the steam-launch lent us by the Dutch authorities had completely broken down, and Commander Rothmeyer being willing to take us over to Dobo, we determined to seize the opportunity and try to persuade the pearl-fishers to sell us one of these boats. By hastening the embarkation as much as possible the invalids, thirty-seven in number, were on board by daybreak the following morning and, together with Goodfellow and Shortridge—the latter of whom had been suffering from fever since March, and was to go to Australia for three months to recuperate—we sailed for Dobo.

How splendid it was to be at sea again, and to breathe the bracing air after the fetid and malaria-laden

COLLAPSE OF A VILLAGE

mist of the jungle! Hotels are unknown in Dobo, but they are not required owing to the presence of those hospitable Australians, the Clark brothers, Ross-Smith, and Jessop, and others of the Anglo-Saxon race who have created a valuable and flourishing industry in this desolate possession of the Dutch. With them we stayed a week, and whilst waiting for the return of the *Zwaan* purchased a ten horse-power motor boat, built of the strongest timbers and fit, so we thought, to withstand the hard usage with which it would meet.

We returned to New Guinea on the 6th June, to experience anything but a pleasant landing, for the south-east monsoon had broken, and wild surf was beating on the bar. During our short absence eight more men had fallen seriously ill. They were immediately transferred to the steamer, and with the departure of the *Zwaan* all connection with civilisation was severed for many months.

As an additional impediment to progress, both the Mimika and Obota rivers were found to be in full flood. Trees, and often whole islands of vegetation, were rushing down the stream, jostling each other in a confused mass as the surging torrent swept onwards to the sea. Though the land close to the coast was under water, we little anticipated the unpleasant experiences which we were to undergo at Wakatimi.

Already the surrounding country was inundated, leaving the camp and native village as islands in the midst of a vast timbered swamp; the former preserved for the moment by the dykes which had been thrown up, and the latter by the accumulations of years of household refuse. Slowly but surely the rise continued, the drains filled and overflowed, and finally when the retaining banks burst, the waters swept through the

COLLAPSE OF A VILLAGE

camp. Faster and faster rose the river, causing additional havoc every instant as it poured across the peninsula in an irresistible rush for the sea. The native village of Tourapaya, situated just to the north of the camp, received the full force of the flood and collapsed like a pack of cards. The inhabitants completely lost their heads, and with loud cries and much lamentation seized the more precious of their goods, flung them into the canoes and paddled frantically away. After five minutes they came back again for one last look, and then away they went and vanished for good, whither I cannot say. We were too busy ourselves to pay much attention to what happened to others, as all our efforts were concentrated in the attempt to save our own precious goods, by piling box upon box and case upon case. As luck would have it, we had many stores and few men, and consequently tons of valuable food-stuffs were ruined. Rice, beans, dried meat, fish, trade goods, blankets, and other priceless and irreplaceable articles slowly disappeared from view, as the waters lapped over one box after the other, completely destroying the contents. The floods in Paris at the beginning of the year were bad enough, but there the victims had upper stories to which their more valuable goods could be removed for safety. We unfortunately had no such place of refuge, and could do little but wade around and protect the more perishable articles, and raise our camp bedsteads higher and higher. For three days and three nights did the scene of havoc and discomfort last, though our own particular hut, owing to its being on ground slightly higher than the rest, had never more than $2\frac{1}{2}$ feet of water over the floor. So deep was the flood in places that parts of the camp were unapproachable, and the hospital was

A MISERABLE EXPERIENCE

completely isolated. It was perfectly miserable to have to sit in the hut, with one's legs dangling in the water, and watch every small article which could float appear at one door, swish across the room and pass out of the other, to join the vegetation sweeping down the river. Basins, bowls, shoes, bottles, tins, all and sundry joined in the race. Insects and all manner of creeping things, driven from their dark corners and hidden recesses, swarmed up the poles and walls, whilst along the beams overhead scurried numerous families of rats, caught in a trap from which there was no escape.

The whole country from the mountains to the sea was under water, and so widespread was the flood that the coolies, returning from higher up stream, instead of as usual halting for the night at one of the regular camping places situated at intervals along the forty-seven miles of river, unable to find a vestige of ground upon which to pitch their tents, were compelled to come through without a break. To their great surprise, for they anticipated that Wakatimi at least would be comparatively dry, they sailed straight across the peninsula in the dark, over the football ground, and through the doorway of their own sleeping house, where for the first time for fifteen hours they were able to leave their boat.

The whole affair was a most miserable experience, and shows how hopeless it is to expect to make anything much out of this country. This was the worst visitation we had, but by no means the last.

Through it all—and this will tell my readers the month and the year—Halley's comet flamed in the skies. At no place in the world was a finer view to be obtained than from where we were, and in the early mornings when the sky was clear of cloud and the

HALLEY'S COMET

flaming tail stretched from the horizon to the zenith and even beyond, the effect was truly gorgeous. It could not have remained unnoticed by the natives of Wakatimi, for nothing escapes their sharp eyes, but whatever they may have thought of the coming of this celestial wonder, they gave no sign of surprise or alarm. What must have terrified most savage races passed without a comment and left them cold.

On the fourth day the waters commenced to subside and fell steadily; work was soon recommenced, and the putrid fish and evil-smelling rice cast for ever into the river.

The Mimika itself continued in full flood, but instead of being an obstacle to the upward passage of the canoes, the depth of water now gave us a splendid opportunity to test the new motor boat, and to see how she would behave with six laden canoes astern. The canoes were lashed together in threes, split bamboos keeping them rigid. On these rafts, well laden with what had escaped the flood, the coolies lounged in comfort, appreciating, if ever anyone did, the advantages of mechanical over manual labour. How I too enjoyed the change! Instead of being boxed up for hour after hour in a space 18 inches by 36 inches, and having to strain away at the paddles and making hardly an inch of progress, to sit back in a roomy boat, watching mile after mile of the banks slip by, was luxury indeed; whilst to know that large quantities of stores were being brought on, to think of the amount of labour saved to the men and consequently strength gained against disease, and all the time to listen to the steady thud thud of the engine, was to me the acme of pleasure. The horrid toil with the paddle, we fondly thought, was ended for ever, and little did we imagine

AN ENJOYABLE CHANGE

that two more trips up the river were all that the motor boat was fated to do. But that is another story, and can wait for the present.

On the first day of this journey we covered three canoe stages, on the second two, and early on the morning of the third reached Parimau, all well. How different to the former six days of incessant toil and the heavy roll of invalids who used to find their way to hospital after such a journey in canoes.

CHAPTER XIV

Up the Wataikwa—A stampede of carriers—A toilsome retreat—Vicarious punishment—Disappointing behaviour—New Guinea flies—The wet season—Crossing the Kamura—The hidden baggage—Difficult surveying—Alternative plans—The course of the Wataikwa—Pleasant speculations—A precarious position—Cutting through the forest—Hampered work—A turbulent stream—Hewing and cutting—Dense vegetation—Dreary work

MARSHALL, tired of awaiting our return, had already left on an exploration of his own, taking with him some Gurkhas and natives with provisions to last three days. The party was lightly equipped, in order rapidly to traverse the jungle beyond the Kamura and carry on for at least another two marches beyond the point where he and Shortridge had camped two weeks previously. After spending the night at the village of Ibo, where a canoe was borrowed from the inhabitants to transport the baggage to the old camp at the junction of the Puria, the boat was tied up and the journey continued on foot. Having followed a branch stream for a few hours, they emerged on to the banks of the Wataikwa, a river which was found to have a volume of water larger than any previously seen.

As a crossing was impossible by reason of the floods, they then turned due north, and followed the bed of the river for several miles into the mountains. So far everything had gone well, but as a flood threatened and food showed signs of running short, they decided to push on no farther, but instead, to retire as rapidly as possible and equip a fresh party to carry on the exploration well

A TOILSOME RETREAT

into the mountains. The Papuan carriers seemed happy and in the highest spirits at being able to return so soon, and were delighted at the ample supplies of meat obtained from a cassowary which had been shot during the march.

The camp was early astir and the loads packed and distributed, when there took place one of those unaccountable actions on the part of the native carriers which rendered any distant travel out of the question, unless some of our own imported coolies were of the party. Without a word of warning or a sign of discontent, the Papuan carriers walked unconcernedly into the jungle and—vanished. At first it was thought that their absence was but temporary, but a thorough search proved beyond a doubt that they had gone for good.

Marshall and his Gurkhas were now in a parlous state; four long marches from home, one day's rations in hand, and eight indispensable loads to be carried to Parimau. No time was to be lost—every hour wasted added to their difficulties. Each man took a double load, and thus burdened they set forth on the return journey through the forest, over the hill, and along the flooded river. Between three and four miles were covered that day, and with weary limbs and aching shoulders they camped for the night on the bank of the Wataikwa, at a spot where an overflow of the river forms the source of the Kamura, and where some weeks later a permanent camp was to be formed.

At daybreak they were once more on the move, and by untiring perseverance carried everything to the spot where the canoe had been left four days previous. Here fate dealt them another blow—the boat was gone! no doubt carried off by the Papuans during their retreat. This loss forced them to change their plans, for, laden

VICARIOUS PUNISHMENT

as they were, without some assistance it would be impossible to reach Parimau before the food-supplies were completely exhausted. Consequently everything not absolutely required was cached in the jungle and well hidden beneath branches of trees, since the eyes of the natives are sharp, and a hunting party would be certain to search the site of a recently abandoned camp.

With loads reduced to thirty or forty pounds in weight, Marshall and his men stepped out manfully, and with such good effect that by midday they were within a mile of the village of Ibo. The savages of this place, evidently cognisant of the desertion, turned out in force, and by demonstrative signs of sorrow and grief sympathised with the travellers, at the same time vowing vengeance upon the deserters. Though not directly implicated, they were of the same tribe, and were therefore partly responsible; but as corporal punishment could hardly have been given for acts they had not themselves committed, they were made to carry the loads without payment, a form of justice they appreciated, if only because such a thing had never happened before. In the end the deserters likewise escaped chastisement, but in its place the information was imparted to them that they would in future be refused the run of the camp, that they would never be employed on any manual labour whatever while we were in the country, and that no fruit, canoes, paddles, &c. would ever be bought from them again.

Later in the year some of these men, anxious to dispose of their canoes and paddles, persuaded their friends to sell them as their own; but as from our camp everything being made in the village could be seen, we knew exactly to whom they belonged, and thus were able to defeat the plan. It was quite amusing to watch the real

DISAPPOINTING BEHAVIOUR

owner in the far distance peeping round the corner of his hut to see how the scheme worked.

The behaviour of the natives on this last expedition was most disappointing, as they, to all outward appearance, had been perfectly contented with their loads, food, and promised rewards. It was obvious that for the future they could only be looked upon as supplementary to our transport force, more especially when working within a few days' march of Parimau.

The enforced delay was not wasted. For Marshall and the Gurkhas a rest was imperative, and much food-stuff, lately imported and thoroughly soaked by the rain, had to be dried whenever an opportunity occurred in order to prevent its complete putrefaction. More huts were built, landing steps constructed, paths laid out, the camp drained, and a hundred other things done necessary for the maintenance of health. The Parimau camp had by this time assumed the proportions of a village of imposing dimensions, the upper half being British, the southern half Dutch, the two together extending for two hundred yards along the banks of the river, and for eighty to one hundred yards into the jungle. To provide space for these buildings more and more forest was cleared, and with the disappearance of the timber the mosquitoes vanished almost entirely from the area enclosed by the boundary fence. On the other hand, the blue-bottles increased and multiplied until life became almost unbearable. They were simply dreadful, and their persistent lust for laying eggs in our food and clothes nearly drove us mad. The Egyptians could never have been so plagued as we were, for if such had been the case every Jew would have been massacred at once. Of all pests, New Guinea flies are the worst.

Shortly after Marshall's return from his unpleasant

THE WET SEASON

journey, Goodfellow and Wollaston arrived from below, the former already beginning to feel the effects of the fever, which had by this time laid a firm hold of him.

As a few coolies could be spared from the transport work on the river, and as nothing was to be gained by all of us remaining at Parimau, it was decided that Marshall and I should again set forth for the Wataikwa, with the threefold object of improving the road, of preparing a permanent camp on that river, and of prospecting not only up- and down-stream, but also into the dense forest beyond. My departure was delayed for a few days by an attack of malaria, during which time Marshall, with thirteen of our coolies and a few natives, reached the Tuaba, and advancing, cut a new and more creditable path to the Kamura, thereby saving at least one day's march.

The wet season, if such a term can be used in a country where it is but rarely fine, had now set in in earnest, and the numerous streams which beset us at every few yards had to be crossed by swimming or by fording waist-deep. Still, what are a few drenchings more or less during the day's march, when it is the exception to be dry at any time? During our first year in the country we but rarely experienced the luxury of dry clothes, and yet I can safely assert, that not a single man in the whole force suffered from a cold in the head. Presumably the catarrh germ does not exist in the land.

Heavens! how it rained! Wollaston took the trouble to keep an account of the wet days, and found that during the first year rain fell on three hundred and thirty days, and on two hundred and ninety-five days was accompanied by thunder and lightning. Was there ever such a streaming land?

THE HIDDEN BAGGAGE

The passage of the Kamura afforded an exciting experience, and so deep was the water that I doubt whether our coolies could have accomplished it without the aid of the natives. None of our men were burdened with an excessive amount of clothing, but it is surprising what a difference even the scantiest garment makes when battling with a strong current. A man carrying a load on his head or shoulders has a better chance of fording a rapid than one without, as the extra weight often prevents his legs from being swept from beneath him. When once across we were in a position to appreciate the delightful change of our surroundings. Broad, with a stony and sandy bed, the beautiful Kamura sweeps between lines of casuarina trees, behind which again grows the ranker vegetation of the forest, with its tangled mass of creepers, vines and undergrowth. Every other large river in these parts is of a similar character to the Kamura, with the exception of the muddy, crooked, and tree-jammed Mimika, the most useless of all rivers as a line of communication.

Much to the surprise of the Papuans, the baggage previously hidden by Marshall was dug out of the cache, and, to their intense disgust, piled on their backs, as a slight punishment for the behaviour of their relatives in having basely deserted him a fortnight before. The march was then continued to the Wataikwa, where a site for a permanent camp was chosen on a stony elevation; an island when the river was high, a peninsula when low. Great trunks of mountain trees lay around, brought down by former floods, and as there was no signs of the river having lately worked much havoc at this spot, it was considered a fairly safe camping-ground for years to come. It was, at any rate, a chance worth risking, if only that

DIFFICULT SURVEYING

we might escape from the prison-like forest, away from the mosquitoes and all creeping things, and the tainted, fever-laden atmosphere of the jungle. However heavily it might rain, however short the food became, or whatever discomforts were undergone by us on this river, nothing could obliterate the charms of this our best camp in New Guinea.

From our own particular island, and when the mornings were clear, the mountains to the north were clearly visible. It was, however, far from easy to enter them correctly upon the map, as the jumble of low hills, which stretched inland for many miles, gave little indication to anyone in the plains of the lie of the rivers and streams, and of how the hills were situated with respect to one another. The Papuans, a few of whom were with us, had apparently no wish to deceive us as to the topography of these parts, but either their knowledge was very limited, or their replies were in accordance with what they thought would please us most, for we found that their information was incorrect in every case.

Two courses lay open: either to advance up the bed of the Wataikwa and follow it far into the mountains, and, if this promised well, to take it as the future line of advance; or, to cut a path through the forest to the east on the chance that another large river might be found, and one holding out better prospects of a successful attack upon the mountains in the direction of the snows. In either case more stores would be required; so keeping two Gurkhas to cook and look after the camp and four Papuans to carry the loads or cut the proposed road, the remainder were returned to Parimau.

Little did we imagine at that time that this camp

THE WATAIKWA

was to be occupied for seven months, but then neither did we reckon on the wet weather which was so often and so continuously to put a stop to the work and defeat every attempt to cross the river. In the same way it was impossible to arrange for the food, and particular difficulty was experienced in collecting a sufficient quantity to enable another advance to be made. The coolies, it was evident, were breaking down and could not be relied upon to hold out much longer under the present conditions; but it was well to press forward, as a fresh batch would certainly arrive, so we believed, before the strength of the present men had completely failed.

There was no necessity for keeping any coolies at this camp, as four Papuans had been induced to take up their abode with us by promises of an axe-head apiece, to be earned by fifteen days' continuous work. To their minds the reward was indeed great, for with it the owner could buy a wife, the best to be found in the land.

When questioned as to the lie and source of the Wataikwa, they said it rose in the mountains (a very evident fact), that it came from the east, followed the line of the foothills and then, turning south, flowed past our present camp. As this was quite contrary to the flow of every other river yet met with, and because, though just what we would have wished, it was the most improbable course for it to take, we determined to find out for ourselves. Feeling at length that we really had a hold on the savages, now that they were working for an axe, the opportunity of investigating this river was too good to be lost. With sufficient camping equipment and supplies for four days, we set out up the course of the Wataikwa, keeping to the

PLEASANT SPECULATIONS

drier portions of the bed ; we passed through a gorge, and making rapid progress, entered the valley originally seen by Marshall two weeks previously.

To do this the river had to be crossed dozens of times, a by no means easy operation, with the rushing water up to one's armpits. It was all right if at each crossing we worked down stream, but the moment one tried to battle against the current disaster inevitably followed. We were now well in the hills, nearly five hundred feet above the sea and amidst the most beautiful surroundings, with rounded slopes clad in every species of tropical vegetation rising on all sides, while up the valley rugged mountains could be seen, too precipitous to scale, but still clothed wherever a shrub could get a hold. Black and white cockatoos whirled noisily overhead, and the spoor of pig, cassowary and wallaby were to be seen meandering in all directions. We were now far from the hunting grounds of the natives, a sanctuary for game and a place where, to the four-footed animals, man was unknown.

As we sat round the camp fire that night hopes ran high as to what the morrow would bring forth, since if a cliff was found and scaled, the question as to the true path of the river would be quickly settled and our future route of advance determined one way or another. Pleasant indeed was it to be seated before the crackling logs and to speculate on the possibilities of the future. How delightful were those fine evenings in the depth of the New Guinea jungle—made all the more precious by their rarity—when the flickering light of the fires lit up the near branches of the enveloping jungle and cast shadows of inky darkness beyond, when the troubles of the past were forgotten, and all looked rosy for the days to come.

A PRECARIOUS POSITION

A wet afternoon heralded a fine morning, and just as invariably vice versa, and so it proved on this occasion, as when we rose the rain was falling in torrents and the hills were blotted out with clouds. Lightly laden we set out afresh, crossing and re-crossing the river at every bend, more and more hemmed in by impassable cliffs the farther we advanced. For two hours we kept up one continual struggle in sheets of rain, being ever more closely wedged into the river-bed until it became our only road. Chilled to the bone, the work was continued for one hour more, when a pool was reached, too deep to ford and impossible to circumvent. The view ahead was restricted to a blurred series of spurs of little value in themselves, but sufficient to prove that the river continued to the north, and was therefore of no value as a line of advance to the eastern goal. Turning, we made the best of our way back, and picking up such articles as had been left behind in the morning, struggled through to the plains. Our position in the mountains had been a more precarious one than was at that time realised, for though the retirement had been carried out rapidly, we were only just free when the river roared down in spate. Had the rise been more sudden, or had it come down a few hours earlier, the chances are that we should have been caught, and jammed in as we were by cliffs, would certainly have had to abandon the greater part of the baggage.

Our expectations of entering far into the mountains had certainly not been fulfilled, and yet the journey had been attended with a certain measure of success, as it had exposed the lie of the river, and had taught us its uselessness as a line of advance to the snows, and this was really all that mattered to us then.

CUTTING THROUGH THE FOREST

It only remained now for us to continue cutting eastwards through the forest, on the chance that within a day's march a new river might be discovered, one which, at the least, held out some prospect of having its source near the snows. The Obota, Mimika, Tuaba, Puria, and Wataikwa had all been tried and found wanting. It was fully realised that the longer we worked eastwards, keeping to the plains, the greater would become the difficulty of feeding the working parties as soon as they entered the mountains, with the resulting drawbacks of the extra strain upon the wretched coolies, and the increased danger of the advanced parties being cut off from their base by the flooded and almost impassable rivers in rear.

There was, however, no choice in the matter; if we were to move forward this was the only possible route to attempt, despite the labour it entailed and the corresponding loss of time.

The working parties were hampered from the moment of beginning the new work. The few days of fine weather which had been experienced on the way out from Parimau now gave place to rain. A steady drift of mist and water-laden clouds rolled up from the south-east, telling only too clearly that the monsoon had set in for good. Day after day and night after night the deluge continued, not the cataract of the thunderstorm, but a steady, persistent fall that seemed to have no end. Mist enveloped everything, the mountains completely vanished from view, and the river became impassable, so that all attempts to push forward while these conditions lasted were abandoned. Taking to our tent, Marshall and I did our best to keep our feelings under control, each endeavouring to be as little nuisance to the other as was possible, and from

SIMPLE LIFE EXPERIMENTS

my point of view, a more excellent companion I never wish to find. The only exercise vouchsafed to us consisted of sloshy journeys undertaken into the dripping jungle in search of food.

We were never burdened with an excess of clothing, and the more it rained the less we wore, for it meant the sooner we would be dry. In this warm, equable climate, clothes are adopted for decency and not for utility; and this raises the question as to how many years would elapse before a European forced to live in this land of moisture would discard all clothing and live as the native. With the exception of Wollaston, who clung fondly to an ancient khaki covering, coats were discarded from the first, then shirts gave way to a vest, trousers to shorts, and in many cases boots and stockings, except when actually in the forest, were considered superfluous. With bare feet it is easier to keep a hold upon water-worn boulders than when wearing boots, and perpetual wetting in the former case matters not in the least.

If what report says is true, a wealthy German of the name of Englehart, with an enthusiastic following of believers in the simple life, once tried the experiment of living in the north-east portion of New Guinea clothed as they were born, and sustained by the fruits of the forest. The result was hardly what was anticipated, for within a short period all, with the exception of the leader, had passed to another world, or had been invalidated to their native land. It is only fair, however, to state that it is believed the diet of cocoa-nuts was more responsible for the heavy mortality than the climatic conditions under which they lived. Other instances of the white man living the life of the savage are common. One, an Englishman, I am told, took up his abode

A TURBULENT STREAM

amongst a tribe of savages near Port Moresby, and there lived, cut off from his compatriots, for many years. He was well known, if only for the peculiar dress he adopted—a grass petticoat, very full at the hips, designed and executed by himself. He was apparently held in high esteem by the natives, but in the end suffered the death of so many white men, being murdered by his quondam friends for the purpose of obtaining blood of a higher quality than their own, with which to consecrate the pillars of their new idol-house and thereby bring luck to all within. We, on this present expedition, never adopted the dress of primitive man, but at the rate we were shedding garments and the havoc wrought upon them by the insects and the jungle thorns, it looked as if we should soon be reduced to these straits, not from choice but of necessity.

In an endeavour to maintain a link with the left bank of the Wataikwa during the wet season, the Gurkhas threw across a powerful cable made of rattan, the ends secured to immense tree trunks washed down months before. These trees had the appearance of being fixed for ever, but the very first flood after the cable was finished swept the trees and the connecting rope out of existence, so far as we were concerned. It was a flood of considerable height, and gave a vivid demonstration of how rivers change their courses and alter the face of the country in the shortest periods. Whole islands of vegetation, the result of landslides in the mountains, swept past the camp at railway speed, while acres of stony promontories, composed of massive boulders, moved bodily across and down stream or vanished for ever. In the midst of this turmoil our own particular island, now completely isolated, lost

HEWING AND CUTTING

large slices of its perimeter, but was saved from extinction by a mass of loose limestone rocks too great for any flood to move.

A few hours of quietness and the river would fall with the same rapidity as it had risen, when the opportunity would be taken to cross and continue the path cutting. The line chosen was one which it was hoped would just miss the broken slopes of the foothills. The direction was kept by compass bearings, but at the best it was a plunge into the dark, as nothing could be seen of the country to the east except the edge of the forest lining the left bank of the river. There were eight of us all told who were available for the work, and on account of the exhausting nature of forest hewing and cutting the party was divided into two, working on alternate days. Progress was necessarily spasmodic, as, in addition to the oft impassable river, men fell sick and there were none to replace them, but wet or fine the work, as long as there was the slightest chance of head-way being made, was carried on without intermission. As one man tired or his hands gave out by reason of blisters or soreness, his place was at once taken by another. Over and over again were we compelled to abandon portions of the road as some particular spur or ravine, lying at right angles to the line of advance, defied all efforts to construct a practicable path for coolie transport. We had entered a rough and hilly country strewn with moss-covered boulders and seamed with nullahs covered with an impenetrable mass of the closest and toughest of timber. The density of this growth almost passes belief; through it no man can force a way unless with an axe in hand, and as the majority of the trees are of the hardest wood, the stems varying from four to eight inches in diameter,

DREARY WORK

and clothed from top to bottom with water-laden earth hidden beneath a cloak of moss, progress at times became impossible.

An idea of the labour entailed in the task of clearing a two-foot path through this forest may be judged by the fact that a stretch of five thousand yards required three weeks' incessant work before a man could pass along without brushing the stems. On one day two cutters accomplished a length of two hundred and ten yards, and on another, when I was working by myself, all I could add was a piece of ninety yards in length. More unprofitable and dreary labour cannot be imagined, as except for the occasional shrill cry of the Greater Bird of Paradise and the Rifle Bird, not a sound broke the stillness of the forest. Both birds were to be commonly heard upon the confines of this dark and gloomy haunt, but even they would seldom venture into the heart of the densest growth. Only on the rarest occasions were they seen, and then but for a moment as they darted from one secluded spot to another.

Snakes abounded, some poisonous and others harmless, while all the time mosquitoes buzzed around and leeches prowled over one's clothes in search of a succulent piece of flesh.

CHAPTER XV

Cheerless prospects—Shattered hopes—Ill-used Gurkhas—Fresh stores—
A bolting gun-bearer—Birds of paradise—Return to the Wataikwa—
Difficulties of surveying—Photographing the natives

ABOUT this period I ceased to keep a diary. The daily failure to find a possible route was sufficiently disappointing without recording the want of success in writing. Three weeks' wearisome labour at cutting and hewing resulted in the completion of three miles of the narrowest and roughest of tracks. Up hill and down, in the vain effort to find an easier route or to work on a more level plain, the narrow road was slowly pushed forward, without being rewarded by a single glimpse of the mountains or of a greater distance than twenty yards ahead. Can this forest, with its horrible monotony and impregnability, be equalled by any other in the world?

As failure followed failure our spirits fell, and conversation, as we sheltered from the pouring rain, turned on the probability of our never reaching our goal. With barely room to move, with the fetid air of rotting vegetation to breathe, the hum of mosquitoes the only sound, and with the most limited range of visions, the prospect was as cheerless as it well could be. To make matters worse, the food-supply was running dangerously low, and the dwindling number of coolies arriving by each convoy from Parimau barely sufficed to bring enough food to last till the next visit. The Wataikwa was in continual flood,

CHEERLESS PROSPECTS

rendering the daily crossings not only dangerous, but a particularly unpleasant way of starting a day's work in the jungle. Every now and again, so fierce would be the current racing past the camp, that fording became an impossibility and work had to be abandoned for the time. Over and over again was the road paced, first on going out in the morning and then again on the return, until it was recognised that the path had so lengthened that the journey backwards and forwards to the head of the clearing entailed as much labour as the actual work itself.

By 6th August three miles of the road were finished, and it was realised that this plan of starting forth each day from the base camp on the Wataikwa could no longer be followed. The Gurkhas, together with the three Papuans who were still with us, were therefore despatched with a light camp outfit to the farthest point reached, there to remain and cut the path forward till the Iwaka should be met with. As it happened, this decided the question whether we were to get through to the east or not, for hardly had two hours of work been completed on the following day when the forest thinned. Pushing forward rapidly they came within sound of the river, and guided by the noise were soon able to reach its banks. The pioneer party returned to their jungle camp at once and prepared to push forward at daybreak.

The first intimation we received of the success was the sudden arrival that night of the three Papuans. They looked as pleased as Punch, and in one breath informed us that the Iwaka was found, and to verify their story produced a bunch of casuarina twigs (a tree only to be found on the banks of the largest rivers), adding at the same time the false report that they

SHATTERED HOPES

had transported the whole of the camp kit to the new river, and that their work being completed, they had been sent back by the Gurkhas. We were delighted at the news, and congratulating ourselves that at last we had found faithful and trustworthy men, paid them accordingly and dismissed them to their homes. Alas! our hopes in this respect were quickly shattered.

Starting alone at daybreak, in three hours I reached the forest camping ground, which I expected to find cold and dreary, but where to my surprise the fire was found to be still burning. Pushing rapidly along the freshly-cut trail, the Gurkhas were soon found, each man staggering under a load as heavy as himself. Their tempers were not of the best, and had the natives then appeared I would not have answered for the consequences. From them I learnt that the wily Papuans, without saying a word, had slipped away the night before to avoid the labour of carrying the loads to the Iwaka, and to receive full pay for work not yet accomplished. They had rightly reckoned that we could not at once verify their story, and knowing that we paid immediately on the completion of any task, had determined to risk the lie. For the time they had the better of us.

Into my sympathetic ears the tale of woe was poured by the ill-used Gurkhas, after which outburst, their feelings being somewhat relieved, the loads were readjusted and within two hours we were upon the river's banks, gazing at a yellow-stained torrent as it raced between stony shores. The volume of water coming down was about equal to that of the Wataikwa or Tuaba, but offered a far more serious obstacle to a passage, as instead of dividing into many channels, each of which might be crossed in turn, it was here

FRESH STORES

confined to a single bed seventy to eighty yards in width. In such a current no canoe could hope to live, and fording was out of the question. The forest grew right down to the water's edge, and as far as we could see there were no shoals or branching streams.

A site for a new camp was soon chosen, and leaving instructions for a thorough search to be made for a ford, I returned to the Wataikwa, dead beat.

During my temporary absence Goodfellow had arrived, bringing with him a welcome supply of fresh stores which had just arrived from England, and of such a tempting appearance that the case had to be opened then and there. Parimau natives had brought out Goodfellow's stores, as none of our own coolies were free for transport work in the forest. As usual the Papuans were in a wild hurry to return to their wives, but a judicious bribe on the following morning induced them to carry my kit over to the spot where the Gurkhas were camped, the loads weighing almost nothing, as my tent had vanished into dust weeks before, of such indifferent material had it been made, and I was trying the experiment of sleeping under whatever the inhospitable jungle would provide. A leaf hut may be artistic, but it is a most uncomfortable habitation in heavy rain.

My object in moving to the Iwaka for a few days was to try and discover a ford or some means by which the river could be crossed. Three days were spent in the search but without success, the river being a torrent without a single branch which would have divided the volume of the waters. Four or five miles was the farthest point reached up-stream, as the natives flatly refused to carry the loads a step farther or to surmount the smallest hill. Some great fear seemed to lay hold

A BOLTING GUN-BEARER

of them whenever such a thing was proposed, but exactly what it was they were afraid of we never could tell.

For a few moments one day I thought I had overcome their objection to climbing, as after a little persuasion the native who was carrying the gun agreed to clamber to the summit of a small 100-foot landslide. An excellent but limited view was here obtained, but before I had got properly to work with the glasses a clatter of stones drew my attention elsewhere. My brave carrier was racing down the hillside, leaping over the hollows and fallen timber in his anxiety to reach the bottom, where, regardless of our appeals, he dashed into the undergrowth and vanished. The sound of breaking branches told only too clearly of the wild career that was being urged forward. His flight would have mattered little had he left the gun behind, but reasoning that with this weapon in our hands he might be shot and that if he carried it along with him we could do no possible harm, he had enough cunning to realise which was the safer course. To lose the gun in this way was quite annoying enough, but it was particularly vexatious at this time, as on it depended the entire supply of meat.

On arrival in camp some hours later the first thing that caught my eye was the gun leaning against my hut and the faithless carrier squatting close by, an appealing grin spread over his features. He was not in the least abashed at his behaviour, and attempted no explanation; to this day I have not the slightest idea why he bolted, as he had been asked to do nothing extraordinary, and must have known that he would lose his pay for that day's work at least. To punish them all, as no one seemed in the slightest concerned over the

BIRDS OF PARADISE

matter, the nightly ration was stopped, much to their disgust. The lesson was not as effective as it might have been, as on the way home we had killed a twelve-foot python. It was discovered lying along a branch of a tree, its head hanging down a foot or two, ready to seize whatever might pass beneath. It might have been dead for all the notice it took of the stealthy approach of the Gurkha who, with one swinging blow of a pole, broke its neck. Two natives had remained below when the faithless gun-bearer had bolted, and these seized greedily upon the snake, severing its head from the body with the sharp edge of a piece of split cane. Even after the removal of the skin the great body turned and writhed amongst the rocks, and not till it had been cut up in pieces a foot long did the contortions cease. To make my punishment still less effective the Papuans sallied forth at dusk and added a repulsive-looking iguana and a dozen prawns to their unappetising meal.

During our absence the other Gurkha had been out with the small collecting gun, and had the good fortune to see many of the glorious Greater Birds of Paradise dancing in the trees to the south of the camp. None were shot, as the range was too great, but he had had the satisfaction of watching for many hours this fascinating display of plumage. On one tree alone nine cocks were dancing and on another tree five, the hens perched on the branches round about and egging them on by a succession of piercing calls. These splendid birds were here very numerous, and as they showed no fear of man, gave to the onlooker beneath the tree a most delightful exhibition of their methods of courtship.

Birds of Paradise have been known to Europeans for many centuries, and in the olden times were believed, by those who visited the island, to have no legs and to live continually in the skies. This idea was



GREATER BIRD OF PARADISE

Throat green; crown orange-yellow; breast, wings, and tail chestnut; and long flank feathers of the richest golden yellow.

RETURN TO THE WATAIKWA

impressed upon the travellers' minds by the fact that the skins, purchased from the savages with whom they came in touch, had already had the legs removed. but for what reason no one knows ; perhaps it was because the large and rather ungainly feet detract from the perfect beauty of the bird.¹

Hundreds of these skins are exported annually from New Guinea and the Aru Islands, although in the latter place so indiscriminate has been the slaughter that the trade had diminished by 90 per cent. When it is remembered that the female lays only one egg during the nesting season, and that the males do not come to full plumage until three years of age, it will be seen that unless the sale is entirely prohibited in the future, the extinction of this exquisite bird is merely a matter of time. No more beautiful sight can be witnessed than that of a full-grown male, with his great yellow breast plumes passing upwards between the outstretched wings and forming a quivering arch over his body, dancing up and down before the female, and doing his utmost to win her heart.

Had we stayed longer the natives would have deserted, so packing camp on the third day we passed back to the Wataikwa, Marshall having already returned to Parimau, to which place I soon followed him, as our one idea now was to accumulate stores on the Wataikwa, and the fewer mouths were there to feed the sooner would the work be completed. Goodfellow had to remain behind suffering from fever. The change of scene had done him no good ; but as this camp was looked upon as the healthiest in the district, it was better that he should stay here than live in the closed-in forest.

While on the Wataikwa and Iwaka rivers the survey, except for plane-table work, had been almost at

¹ Its name *Paradisaea Apoda* is sufficient to prove this.

DIFFICULTIES OF SURVEYING

a standstill, as the mountains were never seen, and the journeys had been confined to the forest.

To those who know not the obstacles and difficulties encountered when carrying on a survey in the densely-timbered tropics, and particularly to those who in the years to come will enter New Guinea for the purpose of mapping her unknown mountains, rivers, swamps and snows, I will mention a few of the more important points which were for ever being impressed upon us while working in the Mimika and adjacent districts.

The rainfall is heavy throughout New Guinea, but on account of the proximity of the highest peaks of the central range, it is probable that the fall in the Mimika district is in excess of that in any other area, fewer opportunities being thereby offered for the taking of astronomical observations. No chance, however fleeting, must ever be missed.

In the year 1910 no star was visible from early in March to the end of May; and again, from 10th June to the third week in October, at no hour of the day or night were the heavens free from an impenetrable pall of clouds. During the remaining months rain fell daily in the afternoons and evenings, and clouds covered the mountains within an hour or so of daybreak. Under these conditions, and with the sun, when on the meridian, nearly overhead, it can be realised how hard it was to obtain accurate astronomical observations. The theodolite and plane-table must be in position by the time the sun's first glow is to be seen in the east, and the work taken in hand immediately the prominent points can be clearly distinguished. Any delay over this and the opportunity is lost, not to recur for another twenty-four hours. One may in the early mornings obtain a clear view for a period ranging from a quarter of an hour to an hour and a half; rarely longer. These

DIFFICULTIES OF SURVEYING

drawbacks are, however, by no means the most important, the chief obstacle of all being the density of the forest and the impossibility of finding in the plains any elevated point from whence a view can be obtained.

The only practical positions vouchsafed by nature throughout the plains are any spits of sand running out to sea and a straight stretch of river. The former allows of a wide view, but too distant for accurate detail except where the peaks show up against the skyline ; the latter position a restricted range of vision, seldom containing more than two or three of the required points. It therefore behoves the surveyor to construct some vantage point from whence a clear view may be obtained to all the peaks required. To do this the forest must be cleared, a feat only to be accomplished after months of strenuous and persistent work ; and it was this plan that we adopted. A measured base line is out of the question, for even if a thousand feet line was cut, two more would still be necessary—one from either end towards the points to be fixed—and even then they would be unlikely to bring within view more than one or two of the mountain peaks. The plan adopted by us was as follows.

We took the longitude, as assumed by the Dutch authorities, at the mouth of the Mimika, where a convenient spit of sand ran far out to sea, and there obtained the latitude and the azimuth of Tapiro Peak. That was simple enough ; now came the difficulty of an artificial clearing. At Parimau, distant twenty-one miles in a direct line from the coast, it was early realised that if the forest could be levelled in the vicinity of the camp, a view of the entire range of mountains to the north and east could be obtained, and for this purpose every available coolie and every savage who could be persuaded was put on to the work of felling trees.

DIFFICULTIES OF SURVEYING

For five months the cutting continued, sometimes with only three or four men working, at other times twenty or more, and never a day passed without the crash of falling trees breaking on one's ear. In all fourteen acres of the densest forest vanished, giving as we had hoped a full and perfect view of Carstensz and almost the entire Nassau Range. Here the latitude was obtained and the azimuth of Tapiro Peak taken. To ensure great accuracy the astronomical and triangulation work was done over and over again, and on this base of twenty-one miles was the map built up. Heights were found by theodolite vertical angles. Plane-table work was carried on where and whenever a chance offered, sometimes hardly a line being added, at others a few square miles, until at length the work was finished. The rivers were plotted from the angles taken by the prismatic compass, the distances being judged by eye, a very satisfactory way, after a little practice. The instruments had been supplied by the Royal Geographical Society, and were of course of the best description, but a lighter plane-table would have been preferable under the circumstances in which we were placed.

In a country such as this, where every pound of weight alters the speed and the distance covered, the lightest surveying equipment should be used. Reeves' Distance Finder Telescope and Astronomical Compass were invaluable. I have heard, but cannot vouch for the truth of the story, that the Dutch expedition working to the east of us had the fortune to find a single flat-topped hill bare of vegetation upon which a base was measured, but if this is so, the case must be unique in the island of New Guinea.

Photography was likewise much hindered by the clouds and the excessive rain. Sunlight was almost a

PHOTOGRAPHING THE NATIVES

necessity on account of the difficulty of obtaining contrasts of light, as figures with the dark jungle as a background showed up most indistinctly. The moist air played havoc with plates and films alike, and compelled us not only to expose the plates immediately they were placed in the camera, but to waste no time in developing them.

It was not till we showed them the picture reflected in the "finders" that the Papuans comprehended at all the use of the black boxes which were always being carried about; but they were quick to learn that when the lens pointed towards them it was for some particular purpose, and to this many offered strong objection, scurrying to their huts like a lot of rabbits as soon as the camera appeared. I can only assume that someone who had been ill suddenly became better after having had his portrait taken, as all at once, instead of running away they actually placed themselves in front of the camera and assumed extravagant postures of their own. Once when Marshall was working the cinematograph and I was holding two terrified babies in my arms to be photographed, instead of the women being frightened, every mother rushed off for her offspring and dragged the screaming youngsters towards us, begging that they might take their turn and be treated likewise. After they had seen a few of the ordinary photographs of their friends, they were more difficult to take in natural positions, and would pose themselves in such awkward attitudes as to render any portrait valueless. An individual selected for a photograph would adopt an air of superiority over his comrades, and when he had learnt what was required would remain perfectly still till all was finished, maintaining throughout the operation such a self-satisfied air as to annoy his friends and put a stop to further work for the day.

CHAPTER XVI

Floods at Parimau—A burial—Depressing circumstances—A successful clearing—Natives' idea of supply and demand—Mosquitoes and leeches—The value of medicine—Mortality of the expedition—Beri-beri—Malaria

ON reaching the Mimika it was clear that a storm of exceptional violence had but lately swept down the valley, all the more remarkable from the fact that nothing unusual had occurred on the Wataikwa, a short eighteen miles to the east. For the two previous months rain had fallen every day, and nearly all day, and though much damage had been done to the banks of the river, no one dreamt that any flood could possibly reach the floors of our Parimau huts, situated as they were fifteen feet above the ordinary level of the water.

So exceptional, however, was the downpour on 18th August, that not a single foot of the country remained above the level of the overflowing rivers. At 10 P.M. the storm, which had been brewing amongst the hills, burst over Parimau, and developed into a regular cataract of falling water at midnight. From now onwards the incessant peals of thunder put sleep out of the question. The black eddying river, lit up by the vivid flashes of lightning, could be seen gliding irresistibly past, its surface covered with uprooted trees hurrying towards the sea, giving forth no sound but the insuck of the whirlpools, and the muffled splashes of the undermined banks as they fell forward in great slices and vanished from sight. With the roar of the elements

FLOODS AT PARIMAU

were mingled the terrified cries of the Papuans in the village opposite. Already the waters were over the floors of their huts, whilst, by the flickering light of the torches, ghostly figures could be distinguished working wildly to save their stock of worldly goods.

The rise continued with alarming rapidity.

Into the canoes which were now floating alongside the huts were cast every animate and inanimate object, including the dying headman of the village, whose stertorous breathing could be distinctly heard across the river. With their more portable goods safely afloat, the frenzied men turned their attention to saving what they could of the houses, by lashing the strips of mat roofing to the tree-trunks or casting them into the branches overhead. As the storm slackened and black darkness took the place of the blinding flashes, so the cries of the panic-stricken natives increased. Nothing now could be distinguished in the gloom, and no reason could be given for the new outburst of fear, until, by the light of our own flickering candles, the water was seen to have risen over the top of our bank and to be flowing through our own huts, proving only too clearly that the native village was entirely submerged.

Our own bank was crumbling so rapidly that the walls of our huts threatened to collapse at any moment, since the supports were resting upon nothing but the projecting roots of trees felled long previously. With what anxious eyes we watched the tottering beams, prepared at a moment's notice to run for it should the land begin to slide. This last action, however, proved unnecessary, as soon afterwards the water began to fall, until by daybreak five or six feet of our bank were bare. On the opposite side, which, as I said, was considerably lower than ours, not a square foot of land was visible ;

A BURIAL

the village had completely vanished, and where it had once stood floated a dozen overladen canoes.

The dawn was ushered in by a chorus of wails, for the *natu* had departed to a better world, his end no doubt hastened by the terrors of the past night. Poor old man, he had been expected to die days before, and so certain were his friends that it was but a matter of hours, that they had already dug and prepared his grave.

To find a landing-place, some of the more energetic natives set out with their canoes along the outskirts of the forest, but soon relinquished the task as hopeless, and returned to their old anchorage in the trees. The canoes presented a weird appearance, piled high as they were with a miscellaneous jumble of kerosene tins, women, weapons, and rags, while over all scrambled the babies and dogs. With the coming of the daylight all fear of a disaster vanished, the spirits of the natives regained their phlegmatic calm and, before an hour had passed, fires were burning in the stern of each canoe and the eternal sago-balls were blackening on the embers.

It was a sad scene all the same, and all the more depressing by the continual wailing of the dead man's relatives. Later on in the day, when the land was once more exposed, the body, wrapped in leaves and bits of old matting, was placed on a platform which had been hastily erected close at hand, and the people, dispensing with what little clothing is customary, plastered themselves with mud and mourned to the setting of the sun. On this platform the corpse remained for two days, and was then transferred, firstly into a canoe-shaped coffin, and then into a newly-dug grave. Although placed two or three feet below the surface of the surrounding ground, the coffin was not closed, nor was the grave filled in. Fresh obsequies attended the removal, and



A PATRIARCH

The oldest man of the up-river tribes, who, on account of his age, wielded a wooden instead of a stone club.

A BURIAL

since the dead patriarch was a man of influence, more rites were paid him than is usual in these parts.

For the first time since the death the deceased's wife and sister appeared, and, in the same state of nudity as the more distant relatives, crawled on hands and knees to the place of interment. As far as we could make out, their duty was to turn over the body daily, with the supposed object of hastening decomposition. Painted and decorated posts were erected at the head and feet of the grave, and the whole fenced in. From time to time visitors on arrival and departure demonstrated their respect for the deceased by the usual lamentations at the grave-side, occasionally adding vines and fresh branches to the already thickly-entwined railings, in very much the same way as wreaths are brought to a funeral in England.

The grave was never filled in, and though the stench from the decomposing body was terrible, yet no disgust was shown by the natives living close at hand, nor were the cooking and usual household arrangements interfered with in any way.

The new village was fated to stand but a short time, as ten days later a fresh storm swept over the valley, fortunately of not quite such severity as the last, but still sufficient to destroy the whole of the newly constructed huts. By the end of August the solid land in front had vanished, and the once broad and airy village had shrunk to a slender line of hovels, balanced upon the edge of a crumbling bank. The natives themselves, used I suppose to this kind of treatment, took no trouble to save what little land had remained, and never ventured to copy the retaining wall of timber we found it necessary to erect to prevent our own houses from toppling into the river.

DEPRESSING CIRCUMSTANCES

At heart we were as depressed as the natives, for without fresh coolies we could do nothing. Nineteen tired men were all we now had in the country, a quite insufficient force to move us even one march into the hills, let alone the main range lying many miles behind. Months of inactivity stared us in the face, months during which one's strength would continue to diminish, together with the crushing knowledge that our goal was receding farther and farther into the dim distance. The one bright spot was the welcome supply of fresh stores from England, and of this the pleasure afforded can only be appreciated by those who have suffered from the want of the bare necessities of life, or who have existed upon tinned herrings and salmon for months on end.

With this supply of good things came Shortridge back from his trip to Australia, to all outward appearance quite recovered from his severe bout of malaria, but, that the germs of this disease cannot be so rapidly eradicated from the system, was soon shown by fresh attacks which took place within three weeks of his landing. There also arrived Mr. C. H. Grant, a naturalist of considerable experience, sent out from home to replace the late Mr. Stalker, who lost his life at Wakatimi early in the expedition.

In this enforced state of inactivity the natives who were willing to work and all who could be persuaded to lend a hand, were set to clear the forest round the camp and on the east bank of the river. This work had been started with the threefold object of rendering the camp more healthy, employing the time of the unoccupied coolies, and with the hope that a view might eventually be obtained of the snows. This latter object, from a survey point of view, was most

A SUCCESSFUL CLEARING

important, as from no other point, except at the mouth of the Mimika River, had the mountains been seen. Without this second view the task of fixing the prominent points and ascertaining their heights was impossible, and no certain knowledge of the obstacles which lay ahead could be gleaned from the short incursions which had already been made into the hills. This clearing when finished was one of the best bits of work undertaken while we were in the country, and was carried on with such steady and systematic perseverance that at the end not a tree remained to impede the view of Carstensz, Idenburg, and the whole of the great peaks of the Nassau Range.

At this work of tree cutting the Mimika Papuan is in his element. His one ambition in life seems to be that of felling trees with a steel axe, and as long as he can do this he is perfectly happy. To be able to do it in comfort, close to his home, to chat and smoke between whiles, and to be paid for it in addition, is real bliss. And when one comes to look at it in his light, and to try even the task of splitting fire-wood with a heavy blunt stone axe, his joy in wielding five pounds of sharpened steel is not to be wondered at. Fourteen acres, for such was the extent cleared in five months, sounds little, but the task was in reality a stupendous one, as those who have seen dense tropical jungle will agree, particularly when, as in this case, many of the trees were twenty to twenty-five feet in circumference, and were hard enough to defy our united efforts for days at a time.

Though they longed to own these axes themselves, only on two occasions did they attempt to steal them, and when they borrowed one would always return it. The first axes given to the men of Parimau were in

SUPPLY AND DEMAND

exchange for canoes, and the addition of these tools to their limited stock started a very fever of canoe building. By borrowing others from our camp fresh fuel was added to their ardour, until canoes became a glut in the market. When our fleet of boats were sufficient in number, we naturally enough would buy no more, but this simple proof of the law of supply and demand the natives could never fathom. It was the same in other respects. If a bunch of fish was purchased, strings of men would continue to arrive at short intervals each with other bunches; they were astounded when no more were bought, and could never be made to understand that we had enough for our present requirements. Once any fish were refused they decided that no more were needed for weeks to come, and not a fish would be seen, although asked for almost daily. So it was when a turtle was bought for the reptile collection, turtles poured in. The same with stone clubs, sago, &c.; but the only thing we would never have refused were bananas, and of these there were seldom sufficient. The coolies, sick to death of their eternal rice and half-decomposed salt fish, were ready to give every stitch of clothing for the fruit, regardless of the after consequences of having nothing to wear or to sleep upon.

A scarcity of clothing to the coolies would have been rather an advantage than otherwise, had it not rendered them more vulnerable to the attacks of insects, and particularly those of the malarial mosquito. When camping for the night on a new patch of ground, unless the jungle in the immediate vicinity is cleared of low scrub, the assaults of the clouds of mosquitoes are irresistible, putting sleep out of the question and laying up a stock of sickness for the days to come. The

MOSQUITOES AND LEECHES

slightest clearing affords some alleviation from the attacks, and if the forest is levelled for from fifty to a hundred yards round the habitations, the obnoxious pest is entirely eradicated. Opinions differ as to how far mosquitoes will travel from the spot of their birth; some say fifty, others two hundred yards, but my idea is that in the district in which we were working the limit is about a hundred. I have heard it remarked that one can always distinguish an anopheles mosquito (the malarial species) from its innocuous brother by the upright position it assumes, as though it were standing on its head; such a fact may be of scientific interest, but as the insect is never seen until the bite has been felt and the harm done, such a discovery is not of much practical value. Contrary to popular belief, they apparently enjoy tobacco fumes; and the smoke of fires, unless so dense as to choke a human being, only serves to warn off the most sensitive.

The remaining species, though very annoying, do no serious harm and are little heeded by the savage, as even their worst sting will never leave a wound equal to that of the mildest leech. The bite of a leech affects a native worse than anyone else, for although his skin is tougher than that of other men, yet the dirty state of his body increases the chances of infection from other sources. In the majority of cases the sores increase until they become really serious wounds, to check which they take no precautions, except when we were present, when they would beg for ointment and a dressing—particularly the dressing—from the medicine chest. Even if the ointment did no good, they reasoned they could still remove the dressing and use it as a head ornament.

As is the case with most native races, medicine in any form was much appreciated by imported man and

VALUE OF MEDICINE

Papuan alike. The former thought it his duty, as the superior creature, to make as much fuss as possible over taking the drug, but liked to be given it all the same. The Papuan, on the other hand, seemed to enjoy the process, and would ask to be doctored whenever opportunity offered; but he was an unsatisfactory creature upon whom to confer a benefit and evinced no spark of gratitude for favours received, as Marshall found on one occasion in particular. During the month of May he gave some harmless medicine to a woman who complained of headache. She soon got well and worked on steadily for another four or five weeks, then sickened and died. For this the husband considered Marshall and the medicine to blame, and as soon as the wailing had ceased came over and told him so, following it up with bad sulks, probably to see what recompense would be offered. "'Tis an ill wind," &c., for to make up for the loss of his breadwinner the bereaved husband attached himself to one of the working parties, in order that, as he told us, he might win an axe with which to purchase a new helpmate. By the hurried way in which he departed at the end of his time, I am inclined to think he had had his eye upon the new girl for some weeks. Something, however, must have gone wrong with his scheme, as he was still a bachelor when we left the country; but, as steel axe-heads are scarcer than women, he is probably settled in life by this time.

I have already referred to the high mortality amongst the Papuans, who have inhabited the land for countless generations and who have become inured to the rigours of the climate, but what can be said of ourselves and the imported soldiers and carriers? Our casualty list is indeed an appalling one, despite the untiring efforts of Wollaston and Marshall, who were ever ready to turn

MORTALITY OF THE EXPEDITION

out at all hours of the night to help the sick. Still, bad as it is, it is little worse than that of many another expedition, and better than some, for instance the Mamberano party at this time working on the north coast, of whom it is reported that at one period there was not a single member, black or white, who could stand. With us, Europeans, Javanese soldiers and convicts, Gurkhas, men of Sumatra, Macassar, Amboina and Buton, each contributed a share to the high percentage of sick and dead.

I have carefully avoided many references to this, the darkest side of the expedition, and it may be said of all journeys undertaken in New Guinea, but it is only right that some idea should be given of the heavy toll demanded of those who attempt to unravel the secrets of this island.

To simplify the statistics, only those who entered the country during the first twelve months have been taken into consideration; and, to realise correctly the risk of life, it must be remembered that the men employed were in the prime of life and in good health when landed, and in addition that no individual was on any account engaged for a longer period than eight months. Of the four hundred men of all races employed during this period, twelve per cent. died in the country as a direct result of the climate and the hardships undergone. To this list should be added many who left the country in the relief ships, in a condition which allowed but the faintest hope of recovery. Many of these invalids were suffering from beri-beri, a disease which claims a heavy toll from the inhabitants of the East Indies, but of which we saw no signs amongst the natives of New Guinea. Eighty-three per cent. of the total force were invalided from the country, and it may

BERI-BERI

be sure that no man was sent away unless the case absolutely demanded such treatment.

Of the four hundred Europeans and natives who were landed during this year only eleven lasted out till the end of the expedition, a total period of fifteen months. Of the survivors four were Europeans, four were Gurkhas, two were soldiers and one a convict. Of the different races the British and Gurkhas stood the climate the best, and the Javanese the worst.

The chief causes of this high mortality and roll of sickness were malarial fever, beri-beri, dysentery, pneumonia and general debility. From beri-beri the Javanese and men of Sumatra showed the heaviest percentage of loss, the Butonese hardly being affected. Goodfellow and Cramer were both attacked before leaving the country, but soon recovered on reaching healthier climes.

Beri-beri is commonly attributed to feeding on inferior rice, but this was certainly not proved with us, as the supplies of the Dutch escort were at any rate of excellent quality, and they suffered even more heavily than did our own men. Possibly it may be traced to the removal of the husks from the grains of rice, and the fine milling which is so popular in the East. As a preventive some people pin their faith to Ketchang Idjoe (a small bean grown largely in the Malay Archipelago, and eaten as any other vegetable); but here again they must be wrong, as both parties used this throughout without appreciable result. The Dobo pearl-fishers are great believers in the efficacy of this bean, and claim, by its means, to have reduced their losses to infinitesimal proportions. To my uninitiated eyes, the disease appeared to pick out those who carried an undue amount of adipose tissue, at any rate the

MALARIA

germ, for such I suppose it is, seems to find here a more congenial home in which to propagate its species.

From malaria, sooner or later, we all suffered, but had not most of us been provided with mosquito nets our days of sickness would have increased tenfold. Mosquito nets are certainly a great aid to health, but are only of assistance during the dark hours of the night, as it is impossible to turn into bed as soon as dusk falls, the hour when the death-dealing insect sallies forth to the attack.

CHAPTER XVII

Illness of Goodfellow—A cheerless place—Our ill-fated launch—The art of poling—A hearty welcome—Propitiating the river gods—Scarcity of game—Loss of canoes—A rain-soaked country—Migration—Valuable detail work—Pygmy villages—The expedition split up—Lost coolies

GOODFELLOW, who had been camping on the Wataikwa, to which place he had gone in the hope of recouping his strength, returned to Parimau on 3rd September, so run down that it was imperative for him to leave the country at the earliest possible moment. He had experienced repeated attacks of fever since the end of July, each bout leaving him weaker than before, and to this was now added symptoms of beri-beri. In such a country as New Guinea, when once malaria has obtained a thorough hold on the system, the only chance of a cure lies in leaving the country for a prolonged period of time. A relief ship was shortly expected, and in this it was settled he should sail for Europe. Far better would it have been if he had given in three months previously, but, as is so often the case, he hoped and believed that each attack would be the last. It was evident, however, that his constitution was too undermined to withstand further attack, and, greatly against his wish, he accepted the verdict of the medical officers, and decided to abandon all idea of remaining longer in the country. There is no doubt that had he stayed he would have paid the penalty with his life. Before, however, cutting himself entirely adrift from the expedition, he agreed to procure fresh coolies from

A CHEERLESS PLACE

Macassar, and, as soon as these had been despatched, to sail direct for England.

A week later I received a low-spirited message to the effect that no ship had called, so, postponing an expedition up the Tuaba, I left at once for Wakatimi. During the week that I stayed at the base camp there were still no signs of the eagerly-expected vessel, and the spirits of the invalid coolies, buoyed up by the hopes of early departure, fell to the lowest state of despondency.

I think at that time that Wakatimi was the most cheerless place I have ever struck. No one moved faster than at a crawl, many used crutches, while others had to be assisted about the camp; so in a wild desire to escape the scene I went to the coast, in the hope that I might find a way to the river Wania or obtain a view of the mountains from a spit of sand at the mouth of the Mimika, a never-failing tonic, if it was only to verify the fact that the mountains had not moved since last looked at. This journey was carried out by canoe, and it may be wondered why the motor boat, obtained with so much trouble from Dobo, was not still in use.

The reason is easy to tell. She was under water.

No expedition can go just as the promoters desire, but it was really extraordinary how the five or six attempts to reach the Wania, a large river lying about twenty miles to the east, failed from one cause and another. Even when suitable transport was available, something always happened to prevent an entrance into the mouth of that river, until we began to think the place bewitched. To superstitious people the following short account of our run of ill-luck may be interesting.

Mr. C. D. Mackellar, one of the keenest and most generous supporters of exploration in all parts of the world, had presented me on leaving London with a

OUR ILL-FATED LAUNCH

lucky horse-shoe, tied with white heather. This, as soon as we landed at Wakatimi, had been nailed, points uppermost, to a solitary tree in the middle of the camp. Fortune having set in dead against us, the horse-shoe was blamed, and after four months' trial turned round to see if that would improve matters. Thus it remained till August, and as affairs showed no signs of mending, it was solemnly removed and cast into the depths of the river, where at least, so we thought, its wicked influence could no longer be felt. But its deeds were only transferred from the land to the water, as on the following week the motor-boat, on whose help so much depended, was wrecked. Thus can this country turn good wishes to no account.

The Amboina boy in charge of the boat had, against strict orders, after the third trip, made an attempt to return from No. 5 camp to Wakatimi on a high flood and in a pitch black night. The result was what might have been expected. In the darkness a clearer portion of the forest was mistaken for a bend of the river, and the boat driven at full speed into a mass of piled-up tree trunks. With constant bailing she was floated to Wakatimi, there to sink and remain under water for a month, the flood not falling sufficiently to enable her to be beached. The Europeans were away at the time, and the boy cleared off by the next ship, saying that the engine had broken down and that the boat was useless. With the assistance of some Dutch pioneers who arrived in October at the base camp, she was docked and patched up as well as possible, retarred, and her bottom covered with pieces of kerosene tins, but in spite of this she continued to leak so badly that to make her serviceable a man had to be kept permanently on duty bailing her out.

THE ART OF POLING

As the motor boat was out of order and nothing was doing on the coast, I took the first available opportunity of returning to Parimau. The journey proved as hateful as ever, every foot of the way having to be poled, but as this is a more rapid mode of progress than paddling, the journey took only five days instead of the usual six. We had by this time mastered the art of poling, though the narrow sloping bows afforded anything but a secure foothold. If our punting friends on the Thames would narrow their platforms down to nine inches they would understand that frequent duckings were included in the day's work; still, in this the wettest of all countries, one soaking more or less matters little. Of the Europeans, Marshall was the most skilled in this particular form of sport, his fine physique and weight giving him a decided advantage over the lighter members. For some reason I was always finding the stickiest piece of mud with my pole, which meant that as the pole could not be abandoned, and as it refused to come to me, I had to follow it in.

How thankful we were when the snug huts of Parimau hove in sight, and to see our comrades and their miscellaneous collection of men waiting at the landing-stage to give us a welcome. The greatest joy in going away is said to lie in the return, and of all the camps, Parimau was the most popular. Even the natives received one with open arms, and the grins of satisfaction were sufficient to show that, however shallow their welcome was in reality, they were always pleased to see fresh arrivals from below. We had worked and lived amongst them for the best part of a year, doctored them and sympathised with their troubles, until at length we had actually come to like them, or, at any rate, many of the best of them.

A PROPITIOUS MOMENT

Except in trivial matters we had no quarrel of any sort; they now understood us, and we them, and though I dare say both sides had faults, we found it very easy to put up with one another. From the commercial standpoint the expedition was valuable to them, and in the absence of imported labour they were simply priceless to us.

We arrived at a propitious moment, as the Ibo people had come over for one of the periodical dances and hunting expeditions. The chances of success looked remote, as rain again threatened to disarrange their plans and wash them out of their homes. Determined that this should not happen if it could by any means be prevented, an interesting ceremony was performed, with the intention, so far as we could make out, of propitiating or frightening the river gods into a more kindly mood. A crowd of men collected and marched to the river bank, where the leader, armed with a long hard-wood pole, stepped forth and flogged the waters, each blow being received with a chorus of "boos," which in the Mimika language means "flood" or "water." This proceeding having been satisfactorily completed, a hole was scooped out of the soil in front of each hut and a cocoa-nut full of water poured in, each emptying being followed by more "boos," after which the holes were filled in, and the men dispersed to their homes. Curiously enough the water rose to the line of these holes and no farther, but that such is not always the case is shown by the way the more practical women continued to bale out the canoes in readiness for another night afloat.

The sing-song came off successfully, and was succeeded on the following day by the hunt, but though three villages were taking part in the business, not an

SCARCITY OF GAME

animal was killed, and the people were proportionately crestfallen and sulky. There is little doubt that the continual firing of guns by the collectors had driven much of the game away, with the result that the natives suffered. To make amends for this, so far as we were able, no body of a bird or beast killed by us was ever thrown away; and with the exception of pigeons all eventually found its way into the village cooking-pots. Carrion crows, hawks, and other birds were alike eagerly accepted by the ever hungry natives; they were at once plucked, placed on the hot embers of the fire, and the bones picked clean in a very few minutes. Where a Papuan is, nothing is wasted. He will eat anything and in any condition (except bad rice, of which we had plenty, and this he cannot stomach), fresh or decomposed, clean or dirty, from a pig to a grub, and all forms of life that come between, including such creatures as iguanas, lizards, snakes, rats, or anything else that breathes.

We had been exactly ten months in the country, and although it was generally believed that the dry season was at hand, the rainfall showed little diminution, a particularly heavy flood visiting Parimau on 12th October, and for the fourth time sweeping the native village completely out of existence. On our side of the river the waters rose to the level of the floors of the huts, doing great damage to the banks, carrying away eight of our flotilla of eleven canoes, and smashing them to pieces on the rocks below. With them went the landing stages, for nothing can resist the great tree-trunks when they come whirling down on a flood. The wretched natives spent a miserable night afloat, squatting in their canoes midst depressed relations and dripping household goods. The gurgling suck of the

A RAIN-SOAKED COUNTRY

waters, the cries of the natives, and the fall of great trees, both in the river and in the jungle, produced a pandemonium not readily forgotten.

On the subsiding of the waters the natives were compelled to re-erect their huts on the only ground available, the original site of the village being now much diminished in size. The large space of open ground which had met our eyes on our first arrival at Parimau had now practically vanished, worn away by the persistent attacks of the river, and it was our presence only and the prospects of trade that prevented the natives from migrating to other regions.

With perpetual floods sweeping over the country and destroying the villages it is hard to see how the natives can ever be raised in the social scale by the construction of homes of a more permanent nature. Huts erected in the forks of the larger trees, a style of architecture patronised in other districts of New Guinea, here finds no favour, though it appears to be the only solution of the difficulty. The forest land being nothing more or less than a malarial bog, man is restricted to the narrow strip of ground bordering the rivers, where, at any rate, the sun at times can reach the soil and bring warmth to the half-drowned savage. To these discomforts must be added the scarcity of food, both game and vegetable, usually represented by flabby fish and sago, and it must be owned that life is but a dull routine to the man and hard labour for the woman.

Scarcely had the people recovered from the effects of the last flood when still another threatened to destroy their new works, though stopping short at actual damage. It was, however, the last straw. The entire population, sick of being drowned out of their homes, decided then and there to move to other parts, and

VALUABLE DETAIL WORK

packing their canoes with every portable article, sailed down the stream and were no more seen. Unfortunately the best men, those who were always ready to carry, went with them, a few loafers alone remaining, either compelled to stay because the canoes were insufficient in number to carry them all at once, or because their cupidity was awakened by the sight of a box of fine carving knives which we had held over as a special inducement to work when other trade goods were at a discount.

No coolies being available, Marshall and I with ten natives, on 17th October, started off in an attempt to penetrate into the mountains to the north of the Tuaba River. It may be remarked by my readers that these side excursions helped in no whit towards a systematic and distant entry into the high mountains, and that they were but a waste of time. In a sense this is true, for we knew before this date that the final line of advance would have to be directly to the east. It is also true, however, that no prolonged journey was possible without transport, and the only feasible thing to be done, therefore, was to prepare the preliminary stages, explore the country on either hand, incidentally adding much valuable detail work to the map, search for easier roads, and to take care not to draw upon any stores already landed at the most advanced depot. Each tour in itself was of little value, but each added something of either geographical or zoological interest, and therefore was worth undertaking. Handicapped as we were, it was the best and only possible means of helping on the work of the expedition.

On this particular journey it was hoped that a fine view of the precipitous face of the main range would be obtained, and that incidentally we might come across

PYGMY VILLAGES

another village of pygmies, many of whom were reported to be living in the foothills. As usual all went well until the mountains were reached, when the dilatory tactics of the natives recommenced. The rain fell in torrents, quickly flooding the river and forcing us out of the bed into the jungle. A wet and uncomfortable night was spent, but a fine morning put some life into the carriers and encouraged them to advance afresh. Progress was slow, as the kukries of the Gurkhas had to be used to open up every yard of the road. At night we halted well in the mountains, finding for once a clear spot to camp upon, a sandy spit formed at a bend of the river.

During the day a grand view had been obtained of the great precipice, rising black and threatening a short twelve to fourteen miles away. But how hopeless seemed the prospect of reaching the foot, for wild and rugged knife-edged ridges intervened, some covered with dense forest, others too steep for even the scrub bush to obtain a foothold. A flat refusal from the natives to proceed any farther up the main river, compelled us to fall in with their suggestion that we should visit a pygmy village on Tapiro Mountain, and another twelve hours were spent struggling over the rocks of a stream of crystal water, at the end of which time the Papuans placidly informed us that there were no pygmies anywhere near, but that they sometimes visited the stream on the look-out for fish, as if that was the same thing and all we wanted to know. As we discovered long afterwards, in this move they had deliberately deceived us, for a pygmy village did exist within one march of the night's camp, but in exactly the opposite direction to that in which they had brought us. This they would not expose, either from fear of the

THE EXPEDITION SPLIT UP

wrath of the pygmies, or because they wished to keep our trade goods to themselves, and thus enhance the value of their own possessions.

An advance up the Tuaba River, unaccompanied by the natives, led to no better result, and as no track of any description could be traced, it appears likely that the main valley is uninhabited. These colonies of hill-men are scattered and few in number, and do not extend beyond Wataikwa Mountain to the east. How far to the west they go is uncertain, but by the formation of the mountains and the more gentle slopes to be encountered in that direction, it is quite possible that they may be found as far as the valley dividing the Nassau from the Charles Louis range. In fact, what appeared to be cultivation was seen by the glasses lying high up the mountain side at a distance of fifteen to eighteen miles to the west, but in a position quite impossible to locate unless assisted by the inhabitants themselves.

At this time the expedition was split up into small parties, each member doing as much as possible of his own particular kind of work. Shortridge was collecting on the Wataikwa, Grant on the Kaparé, but all were waiting anxiously for the batch of coolies which Goodfellow had promised to enlist. Our carriers had steadily dwindled in numbers till now but twelve remained, and these were fully employed in keeping Shortridge's and Grant's parties supplied with the necessaries of life. The abominable climate and the continual work had played havoc with the men. Backwards and forwards they plodded along the same monotonous track, now no longer a path but a bog of slime covering a network of roots and tangled creepers; bad enough for the indigenous inhabitants, but killing work for imported labour.

LOST COOLIES

The self-same day that Marshall and I set out for the Tuaba, Cramer started on a journey of his own, being anxious to solve the question as to what connection there was, if any, between the Tuaba and Wataikwa rivers. Taking twenty soldiers and convicts and ten days' supplies, he was ferried by the Ibo people down the Kamura to its junction with the Wataikwa, then up that river, passing the mouth of the Iwaka on the way, until the swift current compelled him to abandon his canoes and take to the banks. Continuing for three days further, the Wataikwa camp was reached and the return journey made along the usual route. The trip had proved highly successful, as the courses of the rivers had been traced, and the Wataikwa found navigable for a launch for many miles. Broad and stony beaches lay on either hand, and the forest was considerably less dense than that bordering on the Mimika.

Short and comparatively comfortable as the trip had been, his men on their return showed evident signs of breaking down, three dying within the next few days. Three others were lost the day before reaching camp, for though every endeavour was made to keep the line together, such was the denseness of the undergrowth that on stepping aside to avoid a particularly bad spot, they had failed to regain the trail. Two were found the following day by search parties, but of the other, a convict, nothing could be discovered. On the third day hope of ever seeing the man was abandoned, when, to the astonishment of all in camp, he appeared out of the undergrowth opposite, walked slowly to the river edge, and collapsed. Sixty hours without food and shelter, the nights spent in the pouring rain, and, worst of all, the horrible knowledge of being lost in a trackless

LOST COOLIES

jungle, and that death must come in a very short time, is enough to break the stoutest heart. Fortunately he was one of the strongest men, and with a plentiful supply of food and rest soon recovered. No European could have stood the strain and lived; it requires a sluggish brain and a phlegmatic temperament, characteristics of the native of the East.

The collapse in our own coolies continued, and as it was found impracticable to keep the two outlying camps longer supplied with food, Shortridge was in November withdrawn from the Wataikwa, and the place left under the charge of a Gurkha and a Javanese soldier.

CHAPTER XVIII

Tapiro Mountain—The home of the pygmies—Effects of the floods—A silent march—Nervous carriers—Excited pygmies—A poor joke—Churlish hosts—Physical characteristics—Dress—Personal treasures—Head-dresses—Plainsman and pygmy—A struggle for existence—Clearings—Elusive women—The incomprehensible white man—Superior plainsmen—My suspicious guide—A hostile headsman—Timid womenfolk—Our departure—Measurements of pygmies

UP to this time only such birds as live in the low-lying plains had been secured for the collection, and the large majority were already well known to science. It was from the hills that the rarer and unknown species might be expected. With this object in view, Grant crossed over to the Kaparé on 3rd November, and on the afternoon of the second day pitched his camp just within the foothills of Tapiro Mountain, from whence he and his men could collect to a height of 2000 feet or more, and return on the same day. Their position was one to be envied, comfortably settled as they were amidst the most exquisite scenery, with the main river in front roaring through a cañon of cliffs, a stream of crystal clearness running in just to the north, and with the precipitous crags and spurs of Tapiro Mountain directly behind. During their stay here several new species of birds were secured, and a few rats and such small fry added to the mammal collection.

It was while thus employed that a regular and well-defined trail was discovered on the crest of the main spur which, when followed up, was found to

THE HOME OF THE PYGMIES

lead to Wambirimi, the village we had so long been desirous of entering, and the principal home of the pygmies discovered many months before. Grant's entry into the square, formed by the first group of huts, was not opposed, but he was clearly led to understand by the men there found that no welcome would be accorded if he attempted to establish himself in their midst. He saw no women or children, and after taking a photograph of one of the huts was escorted back to his camp, where a small amount of trading was done.

On receipt of this news and hearing that the road was immeasurably superior to the one we had discovered during the previous March, Marshall and I determined to sleep in the midst of the pygmies, examine them in their homes, and if possible take measurements and photographs. By spending a couple of nights in the village itself we fondly hoped that their womenfolk would be compelled to show themselves, and that, when they had once lost their shyness, they would move about amongst us as freely as the women in the plains were accustomed to do. Our baggage was soon packed; and to our great surprise, knowing how strongly they objected to enter the mountains, the Parimau men at once volunteered to carry the loads to the village. This pleased us immensely, as we reasoned that the arrival of the plainsmen would be likely to cause much less fear amongst the hillmen than if a troop of brightly-clothed strangers were suddenly to appear in their midst.

The next morning we set forth. Eight months had elapsed since I had last seen the Kaparé River, and since then the wet season had sent its floods swirling down the valley. The old familiar landmarks had vanished or were so altered as to be almost

EFFECS OF THE FLOODS

unrecognisable. Hundred of acres of ancient forest land, bearing trees of great age, had entirely disappeared, giving place to stony stretches of river bed, through which meandered rivulets, or where lay pools of muddy water. The old three-acre camping ground, together with the log-hut, built with so much toil, and the first two miles of the road, had completely vanished, and only the cut stumps of the overgrown trail beyond showed where so many days of labour had been expended. On the second day we reached Grant's camp, and on the third set forth on the final climb to the village of Wambirimi, or, as some of the men called it, Wambirimerbiri.

The general direction of the new advance was not across the crystal stream as we had imagined, but directly up the narrow ravine out of which it flowed. The ascent commenced at once along a faintly-marked track. At times it wound along razor-backed ridges, at others dropped into dark and gloomy ravines, but was always compressed into the smallest dimensions by the all-enveloping jungle.

Not a sound broke the silence of the forest as the long thin line of carriers gradually crept upwards. Animal life we had certainly expected to find, but except for the call of a solitary bird of paradise, and the sight of a large snake of exquisite emerald hue which passed quietly through the line of men and into the undergrowth beyond, not a sound broke the oppressing stillness, nor was there a movement to show that man or beast inhabited the land. But that life did exist in both these forms was proved by the numerous small noose traps set at intervals along either side of the path, but of such small size as to be incapable of holding anything more formidable than a rat.

NERVOUS CARRIERS

The carriers, always depressed when far from home, became more and more affected as the minutes passed, until complete silence reigned throughout the party. A steady climb of three hours brought us to a wooded knoll, through the trees of which a glimpse of the cleared and cultivated area was obtained, showing how close we were to our goal. Still not a sound. The signs of nervousness amongst the carriers increased, for by now they realised that they had broken the tribal rule and had crossed into forbidden ground, and to make matters worse were unarmed, since by our orders their spears, bows, and arrows had been left at the foot of the hill. Had we not been with them it is certain that they never would have ventured into the district, armed or unarmed. To judge by their stealthy movements I verily believe they thought we were about to raid the small men, but what they thought we wanted to steal from the pygmies, unless it was their women, I cannot imagine. However, to show them that our intentions were friendly, and that no surprise attack was to be undertaken, Marshall gave a hail with all the strength of his lungs, a proceeding which acted as a galvanic shock to the carriers and brought a babel of cries from the cultivated ground opposite.

Instead of pushing on at once, we halted for a few minutes to show the pygmies that our intentions were peaceful, and to give them time to collect their scattered wits. The moments passed rapidly while listening to the pandemonium which had broken loose on the hillside, and watching the little men appear amongst their crops and come bounding down the hillside towards the threatened flank. To the excited cries of the Wambirimi men were added the shrill

EXCITED PYGMIES

shrieks of the women as they hurried from their fields into the hidden recesses of the forest. Feeling that the necessities of etiquette had been fulfilled, we pressed forward rapidly and entered upon the col which links the plantation to the village.

Down the mountain sides the hillmen converged from all directions, racing along the felled trees and across the tangled growth, shouting at the tops of their voices, and fitting arrows to their bows as they ran. Our own men, although unarmed, split into three parties, for what purpose I am not sure, but which gave to the force the appearance of advanced and flank guards. Any forcible opposition which may have been intended by the hillmen was nullified by Peau¹ and his comrades pressing so rapidly and determinedly forward, as to actually surround the pygmies before they could make up their minds to commence hostilities, and to close upon them in such a way as to prevent the effectual use of their weapons should they suddenly decide to resist the invader. It was a pretty manœuvre.

An excited confab followed, Peau doing his best to impress upon the pygmies that we were not a raiding party, and that our only desire was to stay the night upon the mountain-side, somewhere about the spot where we then were. The terrified little men did not like it at all, but could see no way out of the trouble. We were evidently not afraid of them, and as, after much fitting of the arrows into the bows and several threats to shoot, we still remained where we were, they were compelled to make the best of a bad job and let us stay. To excite their avarice, we made the most of the fact that in the boxes were concealed beads, knives, and cloth, and such goods as we knew they

¹ The regular go-between.

A POOR JOKE

longed to possess, until at length they began to think that our coming might considerably enrich the village.

To our surprise, instead of leaving us to our own resources and allowing the camp to be pitched there and then, they led the way to the village first seen by Grant, telling the big Papuans to follow on with the loads. This showed certain friendly feelings towards us, but from my point of view was marred by a disagreeable way the guide had, every few yards, of fitting an arrow into the bow, drawing it to its full extent and pointing it straight at the middle of my body. The action was accompanied by a broad grin, so there was nothing to do but grin in return, although I well remember thinking at the time that it was one of the poorest kind of jokes I had ever seen.

Within a few minutes we were in a small square surrounded by five huts, but were hurried through this up the slope of the hill to a second collection of nine huts which had been erected in the clearing of the forest and well out of sight of the first habitations. Two artificially constructed platforms of clay and mud, each about the size of a tennis court, were pointed out as the places upon which the tents could be pitched, the upper one of which we chose, to the accompaniment of loud protests from the owners of the neighbouring huts. Their objections were overruled, and as they had no intention of living in such close proximity to strangers, they had to clear out and take up a temporary abode elsewhere.

Neither women nor children were to be seen, and although the hillmen had brought us to this place of their own accord, they showed evident misgivings as to our intentions, and never for a moment let go their bows and arrows, or lent a hand to move a load. They

CHURLISH HOSTS

showed a churlish spirit in all their actions, and even refused to point out where water was to be found—an unusual request in a country where it is always raining; but the day happened to be fine, the hill steep, and the river hundreds of feet below. We did the best thing possible, took not the slightest notice of them, quietly pitched the tents, lit the fires, and settled ourselves down as if the place belonged to us. Seeing that their presence was disregarded, they gradually came to look upon us with more favourable eyes, and at length began talking and prying into our goods. A few beads judiciously expended worked wonders and awakened the desire for trade.

During these preliminary manœuvres groups of excited men were arriving from the more distant parts, panting from their exertions, and eager to hear what had happened. Many had not been seen before, and in these fear and curiosity fought for the premier place, their avaricious little eyes simply starting from their heads at the sight of beads and knives openly displayed so as to excite their cupidity.

In age they ranged between eighteen and forty, and differed as much in appearance as in manners. The majority were well-developed and nourished, their thigh muscles being especially marked, the result of continuous climbing in the mountains. In colour they were several shades fairer than the plainsmen, although in no instance did they show anything lighter than milk chocolate; but as they were horribly dirty, soot and dirt begrimed in the sheltered curves and hollows of their bodies, clean only over those more prominent parts which brushed against the wet foliage of the forest, the exact shade was hard to determine. In the majority of cases the hair was coal black, but there were

PHYSICAL CHARACTERISTICS

now and again instances of very dark brown or even reddish brown. It was worn short, and took the form of frizzy curls, not pepper-corn. Many of the older men had long, thick black beards; those of a grey hue were scarce and apparently not approved of, as in three instances at least they had been dyed a bright yellow. The nose was straight and broad, the eyes black, the jaw marked but not prognathous, the lips thick, and the general contour of the face oval.

Both in dress and decoration they varied but little from those members of the tribe captured by us in the previous February. In front, supported by a string round the waist, stood out at a sharp angle from the body a straight or curved penis case, 8 to 17 inches in length, formed from some unknown gourd of a bright yellow colour, and occasionally decorated with a tuft of brown or white cuscus fur.

Large and strong net bags of coarse string, interwoven with a pattern of yellow fibre, are worn slung over one shoulder, and from the corner of which hang from one to as many as twenty boars' tusks, trophies of the chase, and highly prized by the owner. These tusks denote the prowess of the individual, very much in the same way as human scalps did in the old days of the North American Indians. The bags contain the entire sum of their portable possessions, a roll or two of string for fishing purposes, a fire-stick, and a length of split rattan, Birds of Paradise plumes, and other odds and ends, all jealously guarded and never allowed out of the owner's possession. They paid Marshall and me the compliment of letting us look inside and handle the goods, but if anyone else tried to do the same, the bags were clasped to their sides in a vice-like grip and a string of guttural sounds poured from their lips.

HEAD-DRESSES

Another bag of smaller size is suspended round the neck close up to the chin, where it is protected from the rain, and in this is kept tobacco, tinder, and dried leaves for use as cigarette papers. They are great smokers, and never seem quite at ease unless they are puffing their not ill-flavoured tobacco.

Many wear earrings, generally composed of at least one string of the small black seeds of the wild banana, to which may be added a red seed or two, a wisp of cuscus fur, or any object particularly fancied, the whole collection being attached to a hole in the lobe of the ear. Now and again this fanciful ornament would be abandoned in favour of a plain, small and highly-polished gourd.

Necklaces are fairly common and of great variety, but all most quaint. Some are formed of dozens of teeth or shoulder-blades of the wallaby, strung in rows; others of the back teeth of the cuscus, or of white and red seeds, no particular pattern being ultra-fashionable.

Head-dresses are not much favoured, and usually consist of a plain band of woven grass. Some, however, are of decidedly striking design. One man, for instance, sported a circlet of over a hundred wallaby shoulder-blades, each with a small hole bored neatly through the centre; whilst another, of wild aspect, wore a cap of cassowary skin decorated with a crown of black feathers. Perhaps the quaintest of all was a cap of hundreds of pieces of black string (black from age and grease and not because of any particular fibre), tied together in a knot and hanging as a fringe over the face. The owner was decidedly bald, so that it might have been adopted as a wig.

On the body itself there was very little, except in two instances when rattan was twisted round and round

PLAINSMAN AND PYGMY

the stomach, possibly to act as a cuirass, a custom prevalent in other parts of the world.

With their ever-ready bows and arrows, and absorbed in what was going on around them, they formed groups easy to study and photograph. From a cursory glance they gave one the impression of being on a lower scale to that of the plainsmen, yet in two instances at least they surpass them in intelligence and constructive power. The plainsmen from the foothills to the sea have words to denote the first and second numerals only, any addition to that number being shown by the fingers of the hand, and if these are insufficient, by including the toes. According to Grant, who questioned some of the men who visited his camp on the Kaparé, the pygmies can count up to ten, a considerable advance in intelligence.

The second marked difference is in the architecture of the houses. In the plains, the one and only kind of shelter—excluding dancing halls—is the primitive and temporary leaf hut, pitched on the ground. Amongst the Tapiro this gives place to a substantial wood building erected on piles, the floor being some 10 feet above the ground. The house consists of one room 12 to 15 feet square with a verandah in front 3 to 5 feet broad, and sheltered from the rain by a far-projecting eave. The roof is formed of superimposed layers of fan-palm leaves, resting on rafters inclined at an acute angle. Entrance is effected, first to the verandah by a ladder of the crudest construction, and thence into the interior of the hut by a window, the sill of which is 2 to 3 feet above the level of the floor. The floor itself is made of split timber, laid as closely as possible, and upon this again are placed strips of flattened bark. Along the walls more bark

A STRUGGLE FOR EXISTENCE

is fixed, thus excluding both wind and rain. To heat the interior fires are lit in a box of sand, let into a hole in the centre of the floor. No other furniture or decoration exists in any form, though it is possible that some small and precious articles may have been removed to the forest before we gained an entrance.

In the village itself a few yellow pie dogs are to be seen, of the type common throughout New Guinea but possessing rather longer coats, due in all probability to the higher altitude at which they live.

Much of the ground occupied by Wambirimi village has been artificially levelled, a kind of work that would never occur to the mind of the plainsman, or if it did would not be put into execution.

The more one sees of these people, the more one realises that their lives are one long struggle for existence. Precipitous mountains with deep and gloomy gorges surround them on either hand, every foot of ground clothed with the densest forest, with perpetual rain, with no wild fruit or edible roots, and flesh in any form scarce and hard to procure. Existence would be impossible were it not for the fact that a certain amount of the less precipitous land has been taken under cultivation. For this purpose two clearings have been made, the larger of about a hundred and twenty acres, situated on the main hill four hundred or five hundred yards from the village, the other only in its earliest stages of development. One must see the ground to appreciate the amount of labour that has been expended in clearing away the great trees and vegetation with which it was at one time encumbered. When it is realised also that this has been accomplished solely with the aid of fire (a difficult operation in this wet climate), stone axes, and two implements fashioned out of a couple of small



A TYPICAL PYGMY HOUSE

A typical house of the pygmies with ladder in front and banana trees on either side.

ELUSIVE WOMEN

pieces of hoop-iron fastened to bamboo handles, the magnitude of the task will be understood. Covering the clearing are sweet potatoes and taro, with here and there an isolated banana tree; and on this poor fare, supplemented by an occasional taste of pig, wallaby and cuscus, these people subsist.

To all outward appearances their fears as to our intentions were soon allayed, but this could only have been of a partial character, for, in spite of the fact that the heaviest bribes were offered, never once did we get a sight of a woman. Large butcher's knives were displayed, eliciting gasps of admiration and longing, it being explained that these were expressly for those men who would induce a woman to show herself; and to our persuasions were added those of the plainsmen, yet all to no purpose. They were told distinctly that we only wanted just to look at their women-folk, and that they could go away immediately after they had shown themselves; but they evidently did not believe us, or possibly feared that the plainsmen would seize and carry the women away, as it must be remembered that although women in the plains are so badly treated, yet they are scarce and much sought after, and a pygmy woman would probably be extremely popular. The old men formed the obstructionist party; the young ones by themselves might have yielded to our temptations. In fact they actually said that several of the women had approached and from the screen of the jungle had taken a surreptitious look at us, but that the sight of our clothing had been too much for their feelings, and that they had beaten a precipitate flight. "If we would only remove our clothes and appear naked like them," they explained, "there would be little doubt that the women could be persuaded to return." The conditions

THE PYGMIES MEASURED

imposed were too stringent, and besides, we were not at all sure that they would fulfil their part of the bargain.

The men showed no fear of the camera and the cinematograph, but then they had not the remotest idea of what was happening. What could these little savages have thought of our goings on? Picture the scene. Two weird creatures in the form of man, but as different as light from darkness from anything they had ever dreamt of, enter their midst, pitch their peculiar form of house just where it suits them, and without delay proceed to place their hosts in groups, all the time gazing stolidly at a black box; then make them shoot arrows, run up and down hill, carry on other silly and aimless pranks, and after each performance freely distribute priceless beads. We would have given much that night to have been able to listen to and understand their conjectures and reasonings.

Our next proceeding must have been equally surprising and certainly more terrifying, for every man who could be persuaded to step forth was thoroughly measured with the standard and with the craniometer, an operation so appalling that large strips of cloth had to be offered before they could be tempted to surrender their bodies into the hands of the Inquisitors. Some of the older men, indeed, trembled so violently during the process that they were hardly capable of remaining on their feet. But as soon as it was realised that this operation was painless and that no ill effects followed, they gained courage, and after exchanging a few articles of dress for beads and finding that they were promptly paid, they placed themselves unreservedly in our hands, and at the same time developed an inordinate desire to dispose of the whole of their worldly goods. A peculiar thing amongst the latter was a Jew's harp, fashioned

SUPERIOR PLAINSMEN

from a piece of split bamboo and worked by a string, the notes produced being very similar to those elicited by the common European kind.

With the exception of boars' tushes and the more finely carved arrows, the Tapiro men were willing to exchange their possessions at what seemed to us ridiculously low rates—a fragment of cloth, a few beads, &c. The greater difficulty experienced in obtaining tushes and arrows was apparently due to the fact that the former were regarded as trophies of the chase, and difficult to come by, while the better class of arrows could only have been produced after much labour, as they were fashioned from the hardest of wood and were artistically carved. The decoration upon the weapons often showed great skill and ingenuity, though the tools used in the work were merely sharpened shells or chips of flint. The arrow-heads were of four kinds, each being of the shape most suitable for bringing down pig, cassowary, bird, or fish, and on none were there any traces of poison.

It was easy to see that not much love was lost between the hillmen and the plainsmen. The latter, as members of our train, adopted a very superior attitude, helping themselves to whatever they fancied and, until we put a stop to it, pulling down the walls of the houses for firewood, cutting off branches of bananas, and in every way making themselves quite at home and exceedingly objectionable. Conversation between the two races was carried on with difficulty, as few of either party understood in the least the language of the other. Previous to our arrival in the country, communication and trading was maintained by one man who travelled backwards and forwards when tobacco was wanted, dogs to be bought, or any other exchange to be made.

INTERMARRIAGE

Now and again, I believe, they intermarry, for one Parimau man certainly carried pygmy blood in his veins, and was the one and only carrier received with any show of affection by the hillmen. Similarly, two of the pygmies appeared more closely related to the plainsmen than to the people with whom they were living, noticeably in respect to height, build, and facial expression. The Parimau women were very fond of the first pygmy captured in the Kaparé River, and gave him such a good time that he was induced on two or three occasions to come to Parimau, when they would kiss and pet him, make him stay with them for the night, and then rob him in the morning. When he stormed and raved at the loss of his knife or some other precious article, they simply laughed in his face, and if that made him choke with rage they would fondle and pet him again until peace was restored.

The hillmen sell tobacco to the plainsmen, taking dogs and shells in exchange. During the present visit home-grown tobacco was scarce, so that a small supply of the common Java variety, which we had with us, was doubly welcome. Tobacco is always smoked in the form of cigarettes, but in a rather novel manner. The tobacco is rolled up in a dry leaf and, to make the covering more pliable, is warmed for a few moments over the fire. One end is lighted, the other closed with the thumb and finger, and the centre of the cigarette is placed between the lips, the smoke being drawn from the middle through the crack formed by the folding leaf; when partly consumed, the end is placed in the mouth and finished in the usual way. Only one pipe did we see. It was made from a single piece of hard wood, short and stumpy, and the bowl a prolongation of the stem, so that the smoke passed in a straight line to the mouth. To our eyes it was crudely fashioned,

MY SUSPICIOUS GUIDE

but with the primitive tools available must have taken the owner hours, if not days, of patient labour to carve.

Throughout the afternoon of the second day no natives put in an appearance, and as there was little doing in camp, Peau and I strolled over to the cultivated land, on the way passing through the farther collection of huts. Something must have aroused the suspicions of my guide, as before he even reached the buildings he took on the stealthy tread of the hunter, crouching low and moving with the utmost caution. I just stared at him in astonishment, as to my eyes there was nothing unusual in the country or in the huts. The closer he approached the more wary he became, until I found I was copying him, and became for the moment another savage. Now that I came to glance round with care, I realised that there was not a man to be seen anywhere, nor was a sound to be heard. Peau's quick eyes searched every corner, while in answer to my whispered questionings his raised finger pointed, first to the overturned ladder of a hut, and then to a bag of fire-sticks and string lying on the ground in the open—sufficient evidence to prove a hurried flight! Passing quietly through the village to the cultivation beyond and up the hill-side he signalled to me to wait, while he crawled along a tree projecting over the crest, from whence the valley below could be seen. From my point of vantage, now that I sat still and listened, the excited chatter of many men could be heard in the ravine below, but too indistinct for anything to be understood even had I known the language. This murmur, however, was quite enough for Peau who, signalling me to follow, hurried back at his topmost speed to the tents and amongst his friends, where in the security of the camp he quickly regained his wonted calm.

Marshall quite agreed with me that whatever was

A HOSTILE HEADMAN

amiss was not of very serious import. Such proved to be the case, as within ten minutes the pygmies put in an appearance, strolling in by two's and three's, and proceeded to carry on in the same friendly way as on the previous day. As to why they had so completely deserted the village for the time being, and the reason for their precipitate flight from the farther huts, we were unable to fathom.

Friendly is perhaps not quite the correct term, as though half a dozen or so of the keenest traders seemed highly delighted at the bargains they had made, there were others who would neither trade nor relinquish their weapons, and from whom it was impossible to get a smile or anything more than a look of tolerance. In one case, indeed, and that a particularly unfortunate one, for it was the headman of the village of Wambirimi, there was persistent and hostile obstruction. He was a particularly objectionable old man, maimed by some disease and with only one eye, and imbued with a special dislike for us. Had he kept silence it would not have mattered, but instead there poured forth an unceasing flow of remarks, pitched in a high and squeaky tone, which to us sounded nothing more or less than pure abuse.

His word carried much weight, and I think that it was due to his animosity that the women were kept so well hidden.

Far up the mountain side, thousands of feet above us, could be seen at dusk the camp fires of the women, an impregnable spot to which they had fled, and from which they would again flee were we to attempt a near approach. It did not require the repeated assertions of the pygmy men to make us believe that this would happen, or that it was futile to follow them unless they were willing to show themselves of their own accord.

OUR DEPARTURE

It was evident that the women-folk had no intention of coming into our camp, and that the longer we stayed where we were the more would their suspicions be aroused. It could be seen that we had already overstayed our welcome, and the deduction was drawn that it would be wiser to leave the place in peace and give them time to think over the considerate way in which they had been treated, so that in case another visit should be paid later on they might at length fall in with our wishes.

On the following morning few were present to see us depart, and these were there only for the purpose of escorting us off the premises. Their curiosity was satiated. They had obtained some of our goods and learnt that we were harmless, and all they now desired was to see the last of us. On our side we had gained much. Careful and elaborate measurements of many men had been made as well as a large number of photographs taken with the cinematograph and the ordinary camera, and in addition we had obtained many of their goods by exchange. As no quarrels or unpleasantness had occurred, it was hoped that the impression the visit had left on their minds was a pleasant one.

So soon as the camp was packed ready for the return march, the pygmies uncouth behaviour became more evident, for abandoning all fear, they crowded round, grasping eagerly at everything offered, pushing and jostling one another, and even snatching the goods out of each other's hands. One old man to whom we had given some tobacco had it taken away from him, bit by bit, till nought remained. When trading on the previous day they would have nothing to do with looking-glasses, refusing to even look them, but now, when offered as free gifts, they fought amongst themselves like a pack of wolves.

MEASUREMENTS OF PYGMIES

We were only escorted as far as the crest of the hill, and then, left to ourselves, we travelled back to the Kaparé as fast as our carriers could move. Thence after packing up Grant's camp, the entire party set out for Parimau, reaching that place two days later (November 13th), thoroughly satisfied with our trip.

For those of my readers who are interested in anthropology, a comparative list of the measurements taken during this and other journeys is attached, from which it will be found that the average height of the Tapiro pygmies was found to be 4 feet 8½ inches, and that of the ordinary Papuan of the plains 5 feet 6½ inches. Thirty men of each were measured, but I am inclined to think that if the whole of the Tapiro tribe were to be put under the standard measure the height would be found to be less by half an inch or more, as naturally enough only the bolder, and therefore stronger, men would trust themselves in our hands.

	Tapiro Pygmies.	Parimau Men.	Coast Tribes.	European.
Skin colour . .	Brown	Dark brown	Very dark brown	...
Hair colour . .	Black and brown	Black	Black	...
Hair on face . .	Plentiful	Scanty	Moderate	...
" body . .	Scanty	"	Plentiful	...
Height of stature .	144·6 cms.	166·4 cms.	166·14 cms.	167
Girth of chest . .	79 "	90 "	92·1 "	86·7
Vertex of tragus .	12·3 "	13·32 "	13·3 "	13·8
Head length . .	17·71 "	18·72 "	18·73 "	19·5
Head breadth . .	14·21 "	14·4 "	13·7 "	15·5
Face breadth . .	13·12 "	13·44 "	13·6 "	...
Bigonial breadth .	11·38 "	12·27 "	11·83 "	...
Face length . .	11·07 "	11·88 "	11·8 "	...
Nose length . .	5·19 "	5·38 "	5·33 "	...
" breadth . .	4·2 "	4·63 "	4·57 "	...
Interocular breadth	3·2 "	3·4 "	3·4 "	...
Nose . .	Straight, broad, flat	Straight, broad, flat	Straight, broad, flat	...
Nasal bridge . .	Nearly absent	Slight	Slight	...
Lips . .	Medium	Medium	Medium	...
Prognathism . .	Absent	Absent	Absent	...
Jaw angle . .	Marked	Marked	Marked	...
Chin . .	Square, also pointed	Pointed	Square	...
Shape of face . .	Short, oval	Long oval	Long oval	...
Prominence of cheek-bones .	Medium	Medium	Medium	...

CHAPTER XIX¹

Dwarfs and giants—The Pygmy question—Negritos and Negrillos—Head-form—Origin of Pygmies—Various views—An open question—Pygmy culture—Weapons—Fire-making—The use of stone—Arts and crafts—Decorative art—Social and tribal organisation—Status—Antiquity

DWARFS and giants of our own colour are fascinating in a side-show, but embarrassing in private life. We cannot meet them on an equal footing, and if our disapproval of the giant is mingled with respect, our pity for the dwarf is not free from a suspicion of contempt. The interest they excite is a tribute to the abnormal, which attracts by repulsion. A black dwarf of pygmy breed is, however, not a monstrosity.

Men of science, and the public to a less extent, have long been interested in the differences in stature that are to be met with both within and between the races and peoples of mankind. The interest is partly scientific, partly human, and it may influence our attitude towards other nations so much as to receive popular expression. There is, for example, a tendency to associate low stature not only with physical deficiency, but with mental inferiority, and to look down upon those smaller than ourselves. For this reason, in part at least, the Japanese in their recent rapid advances have received the applause reserved for unexpected and surprising merit. They are "clever little fellows."

Our concern in the present chapter is with peoples whose average stature is much lower than that of the

¹ This chapter is written by Dr. H. S. Harrison, D.Sc., F.R.A.I.

THE PYGMY QUESTION

Japanese, who are by no means dwarfs. Tribes of very small men of negroid aspect have long been known to exist in some tropical regions, and there is convincing evidence that the ancient Egyptians were familiar with the African type of these people. In more modern times our knowledge has been greatly extended, the discoveries being usually due in the first place to the zealous curiosity of the traveller and explorer. After the traveller follows the anthropologist, with more or less celerity according to the amenities of the environment, and the newly discovered tribe is studied with an intensity which fails only to reveal its opinion of the investigators. Unfortunately for science, if not for them, the pygmies are shy and retiring people, living mainly in jungles not easily reached or penetrated, and there are very many gaps in the knowledge we have of them.

In the case of the Tapiro of New Guinea, discovered by Captain Rawling and his colleagues, circumstances prevented anything but a preliminary survey, though the information gained is sufficient to show that they fall into line with other pygmies scattered in small groups over a wide but discontinuous area of the earth's surface. Whether the line is genealogical or not gives ground for discussion. It is at any rate worth while to allow Captain Rawling to pause in his narrative, whilst we consider the bearings of the discovery of pygmies in this new locality. It is not essential that we should come to any conclusions as to the origin and significance of pygmy people in general, or the Tapiro in particular, but we may find sufficient evidence to convince us that there is an anthropological "pygmy question," not devoid of importance.

Conspicuous amongst the physical characters of the Tapiro are the low stature, the woolly hair, the dark

NEGRITOS AND NEGRILLOS

skin, and the broad head. To use the language of science, they are ulotrichous melanic brachycephals¹ of an average height of less than five feet. The same definition may be applied to certain pygmy tribes found in regions not far distant, and also in Central Africa. The former are usually called Negritos, and the latter are often spoken of as Negrillos. The Negrito group has hitherto included only the *Andamanese* of the Andaman Islands, the *Semang* of parts of the Malay Peninsula, and the *Aeta* of the Philippines. To these must now be added the pygmies of Dutch New Guinea, for which the only native name at present known is that of *Tapiro*. The Negrillos of Central Africa need not be subdivided for our present purposes, and the Bushman of South Africa, though probably allied to the Negrillos, must be left out of account altogether. The word pygmy will be used here with sole reference to the Negrillos and Negritos, the only dwarf peoples with woolly hair.

Before passing on to more general aspects of the subject, something further must be said of the physical characters which are common to all our pygmies, and which have, indeed, led to the provisional association of the several types in one group. In their general aspect they have the appearance of negro dwarfs, a very important feature of resemblance to the true negro being in the nature of the hair. This is a valuable diagnostic character in the main classification of mankind, since straight, wavy, and woolly hair respectively are typical of the chief races. Skin colour is less im-

¹ The head is not very broad, however, and some pygmies are mesati-cephalic, or medium-headed, if a middle term between broad and narrow is used. In any case it is a question of averages, individual narrow heads being sometimes met with.

HEAD-FORM

portant, but some pygmies tend to have a lighter tint than that of the negroes; there is, however, considerable diversity in both groups. The jaws of the pygmies do not show any special degree of protrusion (prognathism), though the lips are sometimes thick and prominent. The nose is usually sunken at the root, broad, and flat. Except for the absence of prognathism, there is a fairly close correspondence with the negroes, African and Oceanic, in these characters. It is when we apply to the pygmies the epithet "brachycephalic," or broad-headed, that we distinguish them most clearly from the negro, whose head is usually of such a shape as to call for the application of the term "dolichocephalic," or narrow-headed, to its possessor. That is to say, the head of the average pygmy, as seen from above, presents an oval outline which is less elongated in proportion to its breadth than that of the negro's head from the same point of view. The difference can be expressed in figures, but these may be taken for granted. It is sufficient to say that this method of classifying heads and skulls, although not now regarded as the strongest crutch of the student of racial connections, is a support upon which he feels justified in bearing with considerable weight. Nothing is known as to the advantages, if any, which might accrue from a change in the shape of the head, nor have we any knowledge as to the causes or conditions which might bring this about. Even though we adhere to the orthodox belief in the relatively permanent character of the average head-form of races and peoples, the possibility of narrow-headed negroes giving rise to broad-headed pygmies, or vice versa, cannot be excluded from our philosophy. There is not sufficient evidence to prove either alternative, or disprove them both.

ORIGIN OF PYGMIES

This brings us to the consideration of a theory as to the origin of pygmies which has had some casual vogue. The theory suggests that the pygmies are men of stunted growth, fallen from their high estate, and having their origin in unfavourable environments, where want and hardships have led to a reduction of stature. There are many arguments against this view, though it has an attractive air of simplicity. The anthropological pygmy question is not solved by being passed on to the physiologists and biologists. Insufficient food and other privations may dwarf the individual, body and soul, but it remains to be shown that a persistence of such conditions through many generations will produce a permanently stunted race, whether capable or not of regaining full stature under the influence of a new and more benign environment.

Even on the assumption that the inheritance of acquired characters has been a factor in evolution—no small assumption—there is no proof that the ancestors of the pygmies lived under conditions less favourable than their descendants. These are found at the present day in close proximity to full-sized peoples, and it does not appear that physically there is much to choose between pygmy and Papuan or African negro in anything but stature. Though they live the simple life, the pygmies show no signs of degeneracy, and they are known to be experts in their own line, which is that of hunting. If, also, a woolly-haired pygmy is in ultimate origin a dwarfed negro, he has succeeded in surviving in several regions where the negro is no longer found, and where he lives beside his reputed parent stock, as in Central Africa, he has changed his head-form and his skin-colour, as well as his stature, to an extent which may be stigmatised as unfilial. The reduction hypo-

VARIOUS VIEWS

thesis is emphatically not proven, and the discovery of the Tapiro has added no evidence in its favour. The dark-coloured woolly-haired Papuans of New Guinea are dolichocephalic, and although they are of lower stature than the average African negro, they stand physically in much the same relation to the Tapiro as the African negroes do to the Negrillos.

In rejecting the hypothesis of reduction by privations, we do not exclude the possibility that the pygmy is a variation or a "sport," arising from the negroid stock as a result of unknown causes, whether environmental or physiological, or both. To take this view is to give ourselves over to the elusive pleasures of speculation, since, as in the allied hypothesis just considered, there is a lack of any real evidence. At some remote period in the history of man, it is possible that there was an ancestral stock which gave rise to both pygmies and negroes, or it may be that the latter are derived from early types of the former. Either of these views seems to be more in accordance with the existing relationships than any theory as to the relatively late origin of pygmy from negro or Papuan, whether by slow modification or by mutation. It would certainly appear that the pygmy is more closely allied to the negroid peoples than either of them to any other race, but further than this we can scarcely go.

As to the significance of the physical features, and the distribution, of negroes and pygmies in connection with the wider problem of the origin of man, it is easier to be discursive than pertinent. Both are found on either side the Indian Ocean, the African negroes corresponding to the Oceanic negroes (*i.e.* the Papuans and the less hybrid of the Melanesians of the Western Pacific), and the Negrillos to the Negritos. It has

AN OPEN QUESTION

been supposed, not without protests from America, that man arose from his simian precursor somewhere within a zone extending over the present area of distribution of pygmies, negroids, and great apes, this zone including land which now lies beneath the waters of the Indian Ocean. The real evidence we have is certainly in favour of the old-world origin of man, and the probabilities support the view that it occurred in some part of the region indicated.

Apart from the extinct *Pithecanthropus*, apparently an ape-like man or man-like ape, whose scanty remains were found in Java some years ago, the area has not, however, provided us with connecting links between man and the existing apes. The fossilised bones of some of these may lie below the surface of the land and yet be discovered, or in the earth beneath the waters and beyond our reach. In any case the modern pygmies and negroids, although physically in some points nearer to the existing apes than we are ourselves, do not approach so closely to the animal type as did our predecessors of Palæolithic times in Europe. In many respects, indeed, the pygmies are more infantile than simian. Whatever importance we may attach to them they help us little in any attempt to realise the characters of our remote ancestors, and their position in any table of the general inter-relationships of the races of man must remain unsettled for the present.

So far our labour of threshing has revealed a quantity of chaff and little grain. It may profit us to turn our attention to another and perhaps more fertile field, and in taking this course we may at least obtain a clearer view of the life and activities of the pygmy people, as well as of the position they occupy in the scale of culture.

PYGMY CULTURE

Taken as a whole, the pygmies have not advanced beyond what is regarded as the lowest stage of recent human culture. They are primarily hunters, and collectors of such edible animal and plant food as may practically be had for the finding. When, as in a few instances, they have taken to the cultivation of food-plants, it has usually been in a half-hearted way, suggestive of distaste for the labour and lack of confidence in the result, like a poacher saddled with an allotment. The Tapiro, in this as in some other directions, appear to have adopted alien customs with more thoroughness, since they grow sweet potatoes, taro, tobacco, and bananas, presumably with success. Their pile-dwellings, built on land, resemble those of the natives of some other parts of New Guinea, and are much superior to the wind screens and simple huts of most other pygmies. Since the practice of plant cultivation tends to wean the hunter from his nomadic life, by providing a constant supply of food in one spot, the Tapiro have done well to model their houses on those of a more advanced people, and so fix themselves still more firmly to the soil. As far as can be judged from the facts available, it is in agriculture and architecture that the Tapiro have departed most widely from the practices of other pygmy groups, though they have not confined their borrowing to these activities.

The use of the bow, which is a relatively advanced type of weapon, is common to all known pygmy peoples, and it has indeed been suggested that they were the original inventors of the bow and arrows. Spears, clubs, and shields are rare, and when they are used the possibility of the influence of other races cannot be excluded. The methods of fire-making practised by pygmies are all based on the production of heat by the

THE USE OF STONE

friction of one piece of wood on another. The fire-saw, the fire-plough, and the fire-drill are all in use, one or more of them, by the different groups, and a "fire-strap" method similar to that of the Tapiro is employed by the Semang of the Malay Peninsula ; this method is also used in Borneo, Assam, and by non-pygmy tribes in New Guinea, so that it cannot be regarded as a characteristic pygmy device, though it may be of pygmy origin.

In the selection of the raw material for their tools and weapons the pygmies present us with an interesting example of the simplicity with which efficiency may be achieved. Our studies of the early history of man in Western Europe tend to imbue us with the idea that in the absence of metal many of the tools and weapons of backward races must be of stone, or provided with stone points and blades. It is by a consideration of the simple appliances of the pygmy peoples that we arrive at the conclusion that stone is by no means essential to primitive man. In tropical regions at least, wood, bamboo, bone, and shell can provide all that is needful for the hunter, and the use of stone by the pygmies is practically confined to the application, for certain purposes, of hammer-stones and of flakes and splinters such as may be obtained with a minimum of labour and skill. They do not make, and it is not probable that they have ever made, the stone axe-heads, knives, and arrow-heads which are characteristic of many advanced stone-age peoples, ancient and modern, and they do not even get so far as to chip stone into implements comparable with those of the men of the European Palæolithic Age. The pygmies are in an "age" of wood, bone, and shell, and if some of them, such as the Andamanese, make use of iron, it

ARTS AND CRAFTS

is only as a borrowed material, foreign to their own culture. The Tapiro appear to have an axe and perhaps other tools with iron blades, but whilst the axe as a tool is no doubt derived from that of the Papuans, the material for the blades must be introduced in the course of trade and traffic. The Papuans themselves are in their age of stone, though they show no reluctance to adopt the iron of more advanced races.

In their arts and crafts the pygmies maintain the simplicity which is characteristic of their life in general. No spinning or weaving is practised, and the art of pottery-making is only known in one or two instances. Clothing is at a discount, but in the case of the women very rarely entirely absent, and not always wanting in the men. Even the ornamentation of the person, whether by means of necklets and other "jewellery" or by painting and tattooing, is not highly developed, though considerable variation is found amongst the different groups. The Tapiro, for example, appear to be more than usually addicted to the display of ornaments, though they do not scarify or tattoo the skin.

True and indigenous musical instruments are probably wanting amongst the pygmies, and are represented by such time-beating instruments as the curved wooden board of the Andamanese, kicked with the heel as an accompaniment to native dances. The "jew's harp" of the Tapiro is no doubt borrowed from their neighbours. Decorative art is at a low level in most cases, its highest development being found amongst the Semang, in close association with a belief in magic; in this group patterns of considerable complexity, chiefly of a geometrical character, are incised on bamboo quivers, blow-tubes, combs, &c., and have the virtue of warding off dangers and disease, or ensuring a full

SOCIAL ORGANISATION

bag to the hunter. The Andamanese practise a kind of painting with liquid clay or coloured wax, but the designs are geometrical and undeveloped. We know very little as yet of the decorative art of the Tapiro, though the carvings on the arrows have a general similarity to geometrical designs found on some Papuan arrows. On the whole, the material culture of the Tapiro, even so far as it is at present known, appears to have been very considerably affected by that of other New Guinea peoples.

We have no information as to the manners and customs, and the social or tribal organisation of the Tapiro, but if they are in agreement with other pygmy groups there will be no departure from the prevailing simplicity. Amongst these, totemism and clan systems are wanting or rudimentary, hereditary chieftainship is apparently unknown, and the social groups partake of the nature of family associations, the villages, if such exist, being always small. There is no ancestor cult or ceremonial spirit-worship, but in some cases at least a belief in supernatural beings is known to prevail, and there may even be recognition of a supreme deity. Monogamy is usual, and women are not ill-treated. Death appears to be regarded as a natural event, and not, as in many other instances, as a result of witchcraft or sorcery. Burial of the dead in the ground is customary, though platform and tree burial are occasionally practised in certain groups.

In spite of the smallness of their numbers, and their insignificance in comparison with the larger and more powerful communities by which they are in most cases surrounded, there is no reason to suppose that the pygmies are despised or despicable. They live on good terms with their bigger neighbours, whether negro or

STATUS

other, and trade with them apparently on an equal footing. Their habits are usually such as to render warfare against them unsuccessful and unprofitable, but it is probable that esteem is not lacking in the toleration accorded to them. In some cases it is known that they consider themselves the original owners of the territory they occupy and of the surrounding country, and their claim is admitted—academically at least—by their neighbours. Their form of speech is usually closely related to that of neighbouring races, and as far as is known there is no pygmy language which presents especially primitive features.

There is no evidence that their low stature is associated with defective mental development, and they have in some cases been found to be at least as bright and teachable as other lower races of full size. They succeed in maintaining their independence, and they are notably skilful in the chase, since the tiger, the rhinoceros, the elephant, and the buffalo, in Asia or Africa as the case may be, are attacked and overmatched by their agility and cunning. Morally they show no signs of degradation, and, indeed, as far as the facts are known they appear to be on a relatively high level in this respect.

In this brief review of the state of culture of the pygmy peoples much has been omitted, and the particular has been submerged in the general, with a consequent loss of precision. Little has been said as to the intermixture that has taken place with other races, though this has had important effects on both sides. It has long been suggested that there is evidence of a pygmy strain in some of the inhabitants of New Guinea, and with the discovery of the Tapiro the postulated Negrito influence has been shown to exist in reality.

ANTIQUITY

Recently, also, Williamson has put forward the view that the Mafulu and some neighbouring tribes of British New Guinea are a mixture of Negritos, Papuans, and Papuo-Melanesians.

If we endeavour to arrive at conclusions as to the antiquity of the pygmy peoples and their inter-relationships amongst themselves, we find firmer ground than when we attempt to discuss their origin and their relationships with other races. It is scarcely possible to avoid the conclusion that the Andamanese, the Semang, the Aeta, and the Tapiro form one race, more or less contaminated in the different localities. The same must be said of the various Negrillo tribes of Africa, and we thus assert that there is justification for the classification of the pygmy tribes into two main groups. That these two groups are closely allied is highly probable, and in this case there is a pygmy race. Whether we speak of this race as a whole, or confine ourselves non-committally to the Negritos and Negrillos as two established groups, we are justified in the provisional belief that we are dealing with the scattered and reduced remnants of an ancient race (or of two races), whose former wide territory has been invaded and annexed, in some cases many times over. They have been swept away into obscurity by a succession of alien brooms. The material and social culture of the pygmies bears a primitive stamp, suggestive of persistence since the infancy of man, and they appeal to us as true aborigines wherever they are found. Who or what came before them we are at liberty to conjecture, bearing always in mind that in their physical structure they are practically as far removed from the apes as we are ourselves.

In conclusion, the definite record of pygmies in New

VALUE OF THE DISCOVERY

Guinea is an event of great importance, and all anthropologists will be grateful to this expedition and its leaders. The discovery does not solve the pygmy problem, but it provides additional clues and also throws light upon the riddles of racial admixture in New Guinea. Further investigations are not likely to lead to disappointment, though new questions and new difficulties will no doubt arise. It is, however, no cause for regret that discoveries in science, like social revolutions, open up more problems than they solve.

H. S. H.

CHAPTER XX

Return to the coast—No coolies—A fine dancing hall—Native music—Dancing—The tocsin of war—A false alarm—A peaceful time—Myriads of crabs—Native children—Childrens' games—Methods of fishing—Brush turkey

THE end of November. With the exception of adding specimens to the zoological collection, it must be remembered that at this period the expedition was "marking time." To all intents and purposes coolie transport was non-existent, and it was useless to hazard a guess as to the time when a fresh supply would be obtained, seeing that Goodfellow, suffering from malaria and beri-beri, had departed by a ship which called on 5th October, and it was doubtful as to when he would be in a fit state to recruit new men. The time of engagement of the few remaining coolies was nearly at an end and, in order to husband our advanced stores everyone, with the exception of Grant and an escort, moved back to Wakatimi. Shortridge was likewise seriously ill, fever having again attacked him upon his return from Australia. He did his best to conceal his illness, but it was manifest that he could no longer stay in the country, and must leave by the first boat.

On the way down seventeen canoes were passed, travelling in a compact mass and filled with those who, a month previously, had fled from Parimau to escape the floods. They seemed much pleased with themselves and begged us to return, the mothers showing with pride their last born, whilst Wollaston's patients exhi-

NO COOLIES

bited their healed wounds, caused principally by the steel axes and knives which were usually wielded with more enthusiasm than discretion. Their wealth of axes and knives had bred in them a feeling of superiority over the coast people, and had encouraged them to cross the dividing of their tribes and camp on the land of their enemies. The Wakatimi people at the mouth of the river were either too timid or too engrossed in their pursuits to resist the invasion, but that the raiders anticipated reprisals was evident to judge from the scouting canoes in the rear and the close formation adopted.

Early in December the relief ship arrived, but to our intense disappointment without bringing a single coolie, and the only information we could obtain was to the effect that a fresh lot might be expected before Christmas Day.

There was no help for it ; we had to wait and fill in the time as best we could and prepare, as far as possible, for the advent of the men. The survivors of our last detachment were placed on board, with the exception of two who still wished to stay with us, as they had gambled away the whole of their pay, and were afraid to return to their homes without a penny in their pockets. We were sorry to lose them, for they had worked well and had undergone much hardship since joining the expedition eight months previously. They had been recruited mainly from the island of Buton, from whence come, with the exception of the Dyaks of Borneo, the best men to be found in the Dutch East Indies.

Shortridge and Wollaston likewise sailed, the former for England, the latter on a visit to the Utaqua and Island rivers where Dutch expeditions were then at work, and from thence to Merauké, the chief Dutch settlement in the Possession.

A FINE DANCING HALL

Marshall and I, left to our own resources, moved to the coast and pitched camp on the seashore close to the village of Atabo. Our new neighbours proved less interesting than those of Parimau, more sulky in their manners and more grasping in their dealings. Both this village and Taroké opposite had grown considerably in size, and a fine dancing hall, by far the largest building we had yet seen, had been erected. Made of matting, it had a length of fifty feet, a width of fifteen and a height of eighteen feet. The interior was completely bare, except for half a dozen fireplaces round the sides, and for decorative purposes strings of hanging grass stretched from wall to wall. Five doorways gave entrance to a floor of white sand. It was altogether an ideal place in which to dance and sing, pastimes beloved of the native; and not only by the native, but much appreciated by us.

Among the happiest recollections of our sojourn in New Guinea remain the memories of concerts begun in the evening and often carried on throughout the live-long night. The music, whether associated with funeral rites or festivities, was invariably pleasing to the ear, and most charming when wafted across the still waters of the lagoon. To the accompaniment of a single drum, or a very orchestra of drums, supported by the deep-toned hum of the chorus, the vocalist extolled the pleasures of life, the joys of the chase, the thrill of the battle and, if we had been liberal in distributing the wages of the day, the perfection of our humble selves. He sat cross-legged, bedecked in a head-dress of plumes of the Greater Bird of Paradise, facing the drummers and surrounded by the entire male population of the village, affording as pleasing a sight to the eye as the chant was to the ear.

NATIVE MUSIC

The tunes were varied and harmonious, to which the chorus imparted a touch of savagery which did not detract in the least from the perfection of the whole. Each verse concluded with a chorus which rose an octave and finished with a bark like that of a dog, given in perfect unison. For hours on end was this carried on, one singer giving place to another until the night sped by in a ceaseless flow of melody. Attempts were made to place their music on record, but without much success, not that the tune itself was hard to master, but that it was found impossible to obtain a grip of the chorus reinforcement. Now and again three or four vocalists would perform together, their plumes waving in the air and affording one of the prettiest sights imaginable.

Women are never allowed to add their voices to those of the men; in fact, they are rarely heard at all unless they are abusing one another or telling their masters what they think of them. In place of singing, they are permitted to dance, in which form of amusement the men take no part, regarding it as much beneath their dignity, but assist in so far that they wield the drums. The musicians, facing inwards and with bodies bent, slowly advance and retire keeping time with a stick or, if the performance is being carried out in darkness, then with a flaming torch. The women are drawn up in rows and bedecked in all their finery, special care being taken to adopt a light and feathery form of skirt made of bark-cloth or leaves; or, as it so often occurred when in our presence, of a sheet of the *Daily Mail*, the most popular of all dresses. The dancing was to us both uninteresting and monotonous, and consisted merely of as little shuffling of the feet as is compatible with the maximum undulatory movements



A DANCING HALL
Erected at the mouth of the Mimika River.



TAPIRO PYGMIES
Seated upon the roots of a tree felled by a stone axe, and discussing the situation.

THE TOCSIN OF WAR

of the thighs and buttocks. The prima donna of Pari-mau was a comely wench, loving the plaudits of the crowd, and whose self-satisfied air when performing was worth going a mile to see.

Soon after daybreak men would wander round to the camp and settle themselves in groups close by, partly to see what they could pick up in the way of food, and partly because they were bored with their existence and wanted something to talk about. At the same time the women and girls would troop away over the sands in search of shell fish. There was nothing to disturb the daily routine of the women's work or interfere with the habitual sloth of the men.

The days dragged on with never-failing monotony, till one morning when the community was galvanised into life. We were sketching at the time, when down the river echoed a deep-toned "Wo," followed almost immediately by the appearance of two canoes, the paddlers working at a furious rate. In a moment the men were racing, some to their huts and others to their dug-outs. The tocsin of war had sounded; no doubt a familiar feature previous to our arrival. Frantic efforts were made to launch the canoes left high and dry by the tide, and to collect clubs and spears from the houses. Everyone screamed their loudest. The women and children, shrieking and crying, made confusion worse confounded by tearing down the attap roofing of the huts, flinging their goods and chattels into the canoes and snatching up scraps of half-cooked food. Fires were scattered in the rush, the dogs howled and refused to be caught, then, leaving most of their goods behind and taking not the slightest notice of us wandering about in their midst, the whole population, including the maimed and sick, bundled into the boats, and paddled

A FALSE ALARM

hurriedly away. The advance canoe had by now reached the village and the news they brought merely added fuel to the fire. All we could make out was that the Wania and Kamura men were advancing—no one had time or breath to tell us more. Once on the water the people began to collect their scattered wits, and a plan of action was soon concocted. The old men, women and children paddled away from the threatened flank and out to sea, whilst the able-bodied, grasping spears and clubs, advanced upstream to the attack preceded by small swift canoes. Many youths doubled along the beach and joined forces with the men of Kokonau (a village to the west) who had likewise taken the alarm, so quickly does ill news travel.

Marshall and I were now left in full possession of the village, with the exception of howling dogs and squealing pigs, frightened out of their wits by the unusual clamour. Every soul had vanished and we, knowing of no better place from whence to watch the coming fight, remained on the beach, intently listening for the blood-curdling yell which would be certain to herald the attack. The minutes sped by and nothing happened. Great was the disappointment therefore when, within an hour, the warriors returned, reporting the alarm as false, and the dominating thought in their minds now being that of hurrying on their wives to prepare the morning meal. No clue was obtained as to how the alarm had originated, nor did it appear to cause any further interest. Within two hours the village had been rebuilt, fires were burning, children playing around, women working, and the whole incident forgotten. Such must have been the alarms to which these people were subjected previous to our arrival, ever living in

A PEACEFUL TIME

constant dread of their neighbours, each village being a law and a force unto itself.

With the exception of this one small excitement, the days passed peacefully enough, thoroughly appreciated by us after the months of strenuous life in the stifling jungle. Here we had the soft warm breezes of the ocean, miles of firm white sand to walk upon, and almost rainless days. During the first two or three hours of the morning the mountains, though sixty to seventy miles distant, showed up hard and distinct against the sky, with the result that the survey work, oft repeated, was finally brought to completion.

Pleasant indeed were those fine mornings, as, work over, we reclined beneath the casuarina trees, watched the waves lapping the sands at our feet, and listened to the preparations for a breakfast of fresh-run fish: meals to look back upon, for few fish can equal a perfectly fresh grey mullet. Caught by the natives, brought straight to the tent, exchanged for a piece of cloth or a few beads, and put right on to the frying-pan, there was to us nothing to equal it in the world. Then, after the meal, it was pleasant to stroll along the sands and visit the various small fishing villages dotted about the coast, there to talk with the people and play with the children. Everyone says the natives of New Guinea are blood-thirsty savages; perhaps they are, but they were decent enough to us, and without them the days would have hung still more heavily on our hands. It is easy to imagine that three weeks of this life worked wonders with our debilitated systems and thoroughly prepared us for the final advance which daily loomed nearer.

Collecting went on apace, the assistants kept at work from morn till night skinning and preparing birds,

MYRIADS OF CRABS

while the native urchins ferreted around for all creeping creatures for the spirit bottles. At first the boys earned their pay easily, as whatever was brought was sure to be new and therefore required. All forms of life were abundant. On two occasions the sands for acres in extent became yellow with armies of long-legged crabs, all tramping westwards. These for amusement we drove into a solid mass when, with one accord, to avoid our threatening gestures, they dug hurriedly, and in fiveseconds the thousands had vanished from sight. Another day violet-coloured crabs swarmed, then crabs with one immense yellow claw, others with one white claw, spotted crabs, rough crabs, smooth crabs—an everlasting change. Little wonder that the ground-sharks are so numerous, with such an endless supply of their favourite food swarming over the bed of the sea.

As a result of scrupulous fairness and prompt payment for work done and purchases made, the Atabo men steadily improved in manners and willingness to please. The drunkards, realising that there was much to lose and nothing to gain by presenting themselves in a fuddled condition, kept clear of drink or postponed their debauches ; whilst the remainder, when no manual work was required of them, often assisted the boys to collect reptiles and insects, a task eminently suited to their lazy natures.

Sometimes we would play with the children, who by this time had lost all fear of us. Instead of bolting for the shelter of their huts on the first view of the dreaded white men, they now strolled around close at hand, assisted in removing the baggage from the boats, or lent a hand where wanted. One chubby little girl in particular never failed to meet us the moment we landed

CHILDREN'S GAMES

from the canoe, and grasping a hand solemnly escorted us to the tent. Her father did his best to spoil her by telling her to ask for things, but she had not yet learned the sordid ways of the world, and having seen us safely home, would toddle quickly back to her hut.

The children have few games by which to work off their animal spirits, and usually play at being "grown-ups," and, being almost amphibious in their habits, take part in every imaginable form of water sport. The more indulgent fathers will sometimes fashion miniature canoes for their offspring, in which exciting races and imaginary hunts take place. Failing a boat, a log will do just as well, the difficulty of balancing such a crank craft only adding to their pleasure. A boy may often be seen coming down stream on a rolling tree-trunk, walking round and round the stem as it turns over. Little dots who can hardly stand will take a great canoe out all by themselves, and with poles they can hardly lift steer her through the current. What they lack in strength they make up for in perseverance and skill.

On shore one of the favourite amusements of the girls is to build miniature huts, inside which they creep, crowding and chattering together, supremely happy. For the boys there are the more manly sports of bow and arrow shooting, wrestling, and fighting with the feet. Puzzles with string are popular, many of the combinations being very similar to what one often sees in England. The paucity of games practised by the children is probably due to the scarcity of open ground, which is never to be found except on the seashore, or, to a very limited extent, at the bends of the rivers.

While the lazier men and the children were scour-

METHODS OF FISHING

ing the jungle for reptiles and insects with which to enrich the zoological collection, those more energetically inclined were fishing along the coast or in the creeks, where food may be obtained almost for the asking. The native methods of catching fish are rough, but sufficiently effective in this place of plenty. To the smaller creeks the women proceed daily, and fixing string nets stretched on a bamboo bent into a circle across the mouths of the inlets when the tide is in, remove the entrapped fish when the water falls. Each inlet has its owner, and when not in use is tabooed by the usual method of suspending a string across the mouth, from which hang bunches of leaves; a custom common, I believe, throughout New Guinea. When the sign is up, none dare enter or fish therein.

Our larger-sized fish-hooks were in much request, the smaller ones not finding favour, as the savage could never be taught that large fish could thus be held when hooked. Of native-made hooks there were various patterns, fashioned from shell or bamboo, many even having a barb. In the shallow waters along the coast upright nets are also fixed to entrap the simple fish. At other times, and more particularly in the deeper waters, spears and bows and arrows are in most request; but for the finest form of sport nothing can equal the harpoon, excellent examples of which are in daily use. Some of the heads are of iron, but as metal is scarce, cane and bamboo are far more often used. The head is fixed to a wooden cup, into which is placed the shaft when required for use. From the head a strong rope passes loosely round the shaft, the end being held in the hand, so that when the fish is struck the head becomes detached from the handle, and the strain is at once taken by the rope. Many great fish, including sharks, are thus

THE BRUSH TURKEY

captured. The sport must be grand, as the frail canoes require the most perfect management if disaster is not to result. Given a powerful hard-fighting fish, a thin line and hook, a rickety canoe, and everything manufactured by the sportsman himself, rough water and a dinner waiting, and what Britisher would not change places with the sea-coast Papuan, while the sport lasts?

Now and again a few black and white pigeons were shot by the Gurkhas, and until the supply ran out, the brush turkey, brown or black in colour and about the size of a chicken, could always be trusted to fill the larder. A peculiar characteristic of this turkey is that the hen lays an egg one-third her own size, so great in fact that unless seen it appears impossible for the body to hold it. Many were shot, and when brought into camp were found to be on the point of laying when killed, a slight squeeze being all that was required to discharge a meal sufficient for a hungry man. Another point worth noting is that the eggs are laid in the centre of a five or six-foot high mound of wet leaves, scraped together by the parent birds, and then left to incubate by the heat of fermentation. When born the young work a way out of the stifling nest, and as soon as they are free are able to fly and fend for themselves.

The bushes round the camp contained large numbers of an immense spider; I know not its name, but it is well known in other parts of New Guinea. They have soft, balloon-like bodies, and spin a web of great strength. It has been commonly stated that these webs are utilised by the natives as fishing-nets, and that large fish are thus secured, but I am afraid this is an unsubstantiated yarn. Nevertheless, it is a fact that the children do take the webs off entire by slipping a ring of cane below, and that in them they will carry fish the size of sprats.

SKETCHING AND BATHING

Some day, perhaps, this wonderful cord will be turned to a practical use.

Thus peacefully employed the time passed slowly but surely by, and though many hours of the day were spent in sketching, bathing, and walking on the sands, the quiet life at length began to pall, for it was impossible to blind oneself to the fact that all this was a terrible waste of time, and an irretrievable loss of the only six fine weeks in the year.

CHAPTER XXI

Unpromising coolies—The problem of the hills—Our motor boat—Difficult navigation—Interested motives—A double murder—Organising the advance—The advance to the mountains—Papuan and the axes—A change in the river—Crossing the Wataikwa—A flooded river—Coal—Rock formation—Unpromising prospects—An arduous climb—A grand outlook

SUCH excellent work had been put into the derelict motor boat by the Dutch pioneers that she was now able to take the water, and by dint of incessant bailing to keep afloat. To put the rusty and disabled engines into working order Marshall and I returned to Wakatimi on 22nd December.

On the following day the relief ship *Valk* arrived from Merauké, having on board Wollaston and forty-eight coolies for us, and more for Cramer. Goodfellow had sufficiently recovered to collect these men, and had departed direct for England; we were pleased to hear that, though still suffering from fever and beri-beri, he was steadily improving in health. From him, by order of the committee, I took over command of the expedition.

It was a depressing sight to see the new coolies disembark, for instead of the fine men we had been expecting, they proved to be worse than any previously landed—weedy and immature corner-boys and street loafers of Macassar. As much unused to forest life as they were to hard work, these ill-developed specimens of humanity were not the kind to enable us to set out on our final attempt to reach

PROBLEM OF THE HILLS

the mountains along boulder-strewn rivers, over rocky ridges and through swampy jungle, with much prospect of success.

By their behaviour whilst at Merauké it might have been supposed that they at any rate had a certain amount of pluck in their compositions, as they attacked with knives the Dutch guard placed to keep the more riotous ones in order. When with us they were as peaceful as lambs, loathing work and going into hospital whenever they could be admitted.

Still they had to be utilised, and any further delay would only add to our difficulties.

Despite the unpromising nature of the transport, now was the time to push on if a real attempt was ever to be made to penetrate any distance into the mountains.

It was nearly a year since we had first set foot in New Guinea, and our entire efforts up to now had taken us but seven marches to the headwaters of the Mimika, and four more by forest paths to the east. With the Mimika as the line of communication and supply it was very evident that, even with the finest transport force in the world, the feat of reaching the snows was beyond the power of any expedition. Still it was out of the question to acknowledge defeat, and we were determined not to leave the country until every possible branch of the work had been accomplished. There remained, therefore, the problem of how to arrive at the highest accessible hills in the near vicinity of the Snow Mountains, where the ornithological and botanical collections might be enriched and the survey work completed.

With this object in view, the food supplies, of which we had now at Wakatimi sufficient to last

OUR MOTOR BOAT

the entire expedition three months, were transferred to Parimau as quickly as possible. In this work the motor boat was of great assistance. 'The three months' rest on the mud, and the daily soaking by the tide had so affected the engines that they could scarcely be moved by hand, much less be induced to run of their own accord. Cleaning and overhauling, however, gradually improved them, and on the last day of the year the launch deigned to run for five minutes. On the first day of the new year she ran beautifully, and with the object of testing her powers, Wollaston and I took her out to sea, visiting the fishing villages and incidentally purchasing two canoes, of which we were in much need. From there we went on to the sources of the Watuka, a river we had believed to be an off-shoot of the Kaparé, but which, despite the large amount of water brought down, now proved to be only a jungle-fed stream. These were two of the pleasantest days I spent in New Guinea, for to succeed in making a broken-down and apparently useless machine run sweetly gives infinite pleasure and well repays the days of labour expended on it.

With the assistance of the launch, two journeys sufficed to deposit at Parimau sufficient food supplies to last the entire force between seven and eight weeks. What perfect music it was to listen to the regular explosions in the cylinder, music which meant the saving of days of heart-breaking labour and incessant struggle against the current, taking all spirit out of the men, and responsible for as heavy a toll of victims as any forest march. Pleasant it was to sit quietly in the boat and watch the river banks slowly gliding past as march after march was completed, and to see the heavily-laden canoes ploughing their way through

DIFFICULT NAVIGATION

the water. Many, however, had still to be worked up-stream in the old way, for on account of the turns and twists of the river the motor boat could not pull everything, and a grounding led to horrible confusion and the snapping of ropes and supports.

Even the weather favoured us, far less rain falling than during January of the previous year; this, added to the fact that the camping grounds were clearer of undergrowth and consequently less infested with mosquitoes, helped to keep the men fit.

One disadvantage, however, was that there was little water in the river, and the boat had to be bumped and driven over the tangled mass of wood which encumbered the bed. Consequently we could only travel half-way to Parimau in this luxurious idleness, the launch then returning to the base camp to bring up fresh relays. All further advance had to be made by canoe, for the river dwindled to a mere trickle joining the dark and silent pools, and the boats had to be hauled from one to the other by the united efforts of the entire force. Alligators, seldom of great size and not very numerous, basked on the sandy spits, but never made themselves objectionable, and on our approach would seek refuge in the deepest and darkest recesses of the undermined banks. As mile after mile was covered the difficulty of moving the heavily-laden canoes increased, and it seemed to us that every tree which had fallen during the past century had been placed in the very best position to block our way. Lifting the heavy canoes bodily over the trunks, forcing them between others, turning, twisting, and rocking, the slow progress was continued till on the fourth day we reached Parimau, assisted for the last few miles by natives, who, with the pros-

INTERESTED MOTIVES

pect of receiving an axe in payment for carrying our goods forward, had assembled in considerable numbers. Though one would like to believe that these people had some real affection for us, unsullied by ulterior motives of obtaining axes, knives and cloth, I fear that their demonstrations of pleasure on seeing us again were assumed only on account of benefits to come.

Marshall had preceded Wollaston and myself, and with the object of collecting carriers had already set off on a three days' trip to the village of Ibo, on the Tuaba River. His object was crowned with success, and he came in shortly after our arrival with a string of fifteen vociferous men, all, as usual, loudly proclaiming their willingness to carry our goods to the very summit of the topmost pinnacle. This talk we well understood and appreciated at its proper value; the only question in our minds was whether a single man would turn up when the day of departure should actually arrive.

On the 4th January a double murder was committed in camp, the mandoer, or chief convict, being attacked by one of his own men. There was no evidence as to how the quarrel started, the two men being first noticed when feinting with their knives. They closed before anyone could interfere, and without any attempt at parrying, each drove his knife up to the hilt in his opponent's chest. They sank to the ground, and were carried, of all places in the world, into our dining-room, but it was at once evident that nothing could be done to save their lives. They expired within a few minutes and were buried on the evening of the same day. Their comrades displayed but little interest; the use of the knife in the East is of too frequent occurrence to cause a lasting or even a temporary impression on the minds of these half-civilised men.

A DOUBLE MURDER

The sergeant, who by the way was a foreigner, took charge of the burial ceremonials, and was evidently quite determined that for his part nothing should be lacking which the importance of the occasion demanded. Drawing his sword, and placing himself between the graves, he harangued the spectators. "Men," he said, "this day two servants of the Government have lost their lives at the hands of each other. Were they not both good men? hein." "One man very bad man," chipped in an officious convict, but a glance from the offended sergeant made him wish that he had never spoken. "Whether they will both go to heaven I cannot say," exclaimed he, "but I think Allah," pointing upwards with his sword, "will first purge them with fire. Take this as a lesson." Then, drawing himself up to his full height as befitted the occasion, he returned his sword with a clank to the scabbard, and as far as the public was concerned the ceremony was at an end. The sergeant, however, had not yet finished; returning to his hut he refreshed himself with a few glasses of gin, and played on the mouth-organ the national anthems of the three flags under which he had served. This terminated the funeral obsequies, and with the exception of the official report and the entry in the accounts, "To one bottle gin for disinfecting corpse," nothing remained to mark the sanguinary affair. Like many stories, this account probably owes much to embellishment. This incident was followed up by one of our own men stabbing another in the abdomen, but without fatal results. Temporary insanity was the excuse, but when the case was investigated the evidence was not such as to bear this out.

In addition to the Ibo natives who had come over with Marshall, others had accompanied us up the river,

ORGANISING THE ADVANCE

and to these were added during the next few days the stragglers who had been fishing on the Kaparé River.

On the 11th January Cramer arrived with thirty-five men, the combined forces occupying every available foot of ground.

One or two questions troubled us considerably. In the first place it was doubtful how many natives could be relied upon actually to give assistance; and secondly, as every white man would be required in advance and would be fully occupied with his own particular work, it was difficult to arrange for the supervision of the transport in rear. This had to be worked in the most economical manner possible, and based on certain guiding principles: first, to hurry on the white men and their goods as fast and as far as possible; and second, to accumulate, without unnecessary delay, a sufficient food supply at the front. A coolie load weighed twenty-five lbs., and it was calculated that ten days' supplies for a force of thirty men collected at some imaginary camp two days' march up the Iwaka River would be sufficient to enable us to accomplish our task. Unfortunately a considerable proportion of the force consisted of men who could not assist in the carrying of food-stuffs—four Europeans, three Gurkhas, and two Dyak collectors, each of whom was burdened with a rifle or gun and a weapon wherewith to cut a way through the jungle.

On the first day of the advance forty coolies only were available, eight having already completely broken down. To these must be added some Javanese convicts and such Papuans as could be persuaded to lift a load.

A definite plan was arranged, though it was obvious that everything was liable to alteration, as nothing was

ADVANCE TO THE MOUNTAINS

known of our course beyond the first camp on the Iwaka, and it remained to be seen whether a ford could be found farther on in the mountains, and what unforeseen obstacles lay ahead. The general lie of the river was unknown, but from native reports and from what could be seen of the mountains, we gathered that the river came from the east, beyond the ring of mountains we were anxious to ascend. If this should prove to be correct, there was no reason why, with ordinary luck, we should not be able to ascend Mount Godman, and at that considerable altitude collect specimens, and complete the survey of the country lying between that region and the snows.

For the accomplishment of this task it was necessary that a ford should be found, or a crossing made to the opposite bank of the Iwaka within two days' march of the camp. Then after forming an advanced post and accumulating ten days' supplies, we might reasonably hope to climb the mountain and complete the work we wished to carry out.

We moved forward in two parties. With the first went Marshall, Grant, two collectors, two Gurkhas, forty coolies and the same number of natives. In addition Cramer sent forward thirty of his men and three soldiers under the European sergeant. They formed by far the largest body of men we had been able to get together since our arrival—a most cheering sight. The advance, however, had to be postponed for one day owing to the forest being rendered impassable by the rains which had started afresh. This was not altogether unexpected, for we had learnt by our experience in the previous year that the only time at all suitable for travel is from the middle of October to the end of December—or with luck to the middle of

ADVANCE TO THE MOUNTAINS

January. It is possible that this is overestimating the length of the unfavourable period, for I am inclined to believe that 1910 was an exceptionally wet year, in which much of the old forest land was washed away and entire villages swept out of existence.

The continual tramping forwards and backwards during the previous twelve months had transformed the formerly indistinct but fairly sound path leading to the Tuaba into a series of break-neck traps, in which a tangled mass of roots was hidden beneath a bog of black and sticky slime—a road not at all to the liking of our new and soft-footed coolies from Macassar.

In order that Grant and his Dyaks might be enabled to reach the highest ground attainable with as little delay as possible, Marshall, on arriving at the Wataikwa River, sent back the remainder of the coolies to Parimau, and taking with him a party of fifteen men, pushed across to the Iwaka, and advanced another two marches up the right bank. Since no tributaries were met with, by crossing which we might the more easily reach the longed-for ring of mountains, the forest was cleared at this point, and a permanent camp constructed. Marshall then dismissed his Papuans, who returned to Parimau at full speed, received their axes and vanished for good. Cramer, Wollaston, and I started shortly afterwards, accompanied by a much smaller number of coolies, thirty-five convicts, and eight savages eager to earn the coveted axe-heads. The natives were laden to the utmost, as we knew that they would only make one journey, and felt justified in getting as much out of them as possible. On the other hand, the coolies were but lightly burdened, for by giving them small loads they would last all the longer.

PAPUANS AND THE AXES

Parimau camp was left as silent as the grave; there remained only the sick and a solitary Gurkha, who had to take upon himself the combined duties of sentry and nurse.

Just before our departure half a dozen of Marshall's Papuans arrived, and poured into our ears a pitiable tale of misfortune. Their careless wives, when paddling in separate canoes on the previous day, had all upset in one place or another, and every axe-head had been lost; and as this was an accident, they said we would, no doubt, present them with others in their place. Much to their disgust this little plan did not meet with the success anticipated, and they then asked to be taken on again for a fresh journey on the same conditions as before. However, the loads were already packed and their services were not required. They had acted their parts in this little play with considerable skill and appropriate facial expression, but it was a poorly-thought-out scheme, and with a little more care a very much better story might have been concocted.

The crossing of the Tuaba proved an exciting business, and would probably not have been effected at all had not the Papuans taken upon themselves the whole management of the river transport.

The Wataikwa was found to be in flood, and the island upon which the storehouse had been erected was in a most precarious position. Great changes had taken place since I last saw it, four months previous. Thirty yards of solid land then lay between us and the main stream, and on this had flourished numerous great trees of many years' growth. This land had vanished. The river, a foaming turbid torrent, now raced past within a yard of the hut—so close indeed that on the preceding night one of the supporting poles had been

CROSSING THE WATAIKWA

violently struck by a great log as it sped down-stream. The place was not at all to the liking of the Gurkha who had been left in charge, particularly as he was unable to swim, though swimming would not have availed him much had the flood swept over the island, separated as it was from the mainland by a deep channel. In order that anxiety on this score should not prematurely age him, he was given permission to sleep for the future on the mainland, where Cramer's go-down was situated. The island itself had been occupied for six or seven months, and the depôt consisted of a permanent tent, the cook-house, and a store-house containing every ounce of goods which it was possible to accumulate at the front.

Curiously enough the most important section of the storehouse, though undermined by the river, remained standing right up to the night of our final departure—one of the supports vanishing into the river as the last load was removed.

With the aid of a rattan rope which two of the more agile men succeeded in fixing from bank to bank, by the following morning everything was transferred to the opposite side of the river. The Papuans worked excellently, not only carrying loads three times as heavy as those borne by the coolies, but carrying them much faster. Wollaston and Cramer remained here in order to despatch the transport, whilst I went on, though by a different route, to the old forest path which had cost us so much labour to construct some months before. That had long ago been abandoned as impracticable for coolie transport, and a fresh one planned which made a considerable sweep to the south and lay entirely in the plains. The construction of this had been superintended by Wollaston when he relieved

A FLOODED RIVER

us in August, and it proved superior in every respect to the old one.

The two days' journey up the right bank of the Iwaka along the path already prepared by Marshall showed clearly enough the difficulties he must have encountered when hacking his way through the forest. As far as possible he had kept close to the river, but cliffs and ravines had so often blocked the way that in many places the working party had been forced to make a detour high up the mountain side where it was difficult even for unladen men to maintain their footing.

Anxiously we scanned the valley in the hope that a ford might be found which had possibly been overlooked by the advance party. The river scarcely altered in width, and there was never any sign of change of direction until at last the sight of a great valley opening out to the east made us feel sure that the main river *did* flow from that direction, and that it would therefore be unnecessary to cross to the opposite bank. Full of joy at this stroke of fortune, we once more entered the forest, to emerge an hour later on to Marshall's camping ground, only to find the hateful river still racing past in undiminished volume and force. As on many former occasions, we had been once more deceived. The site occupied by the camp was a wild jumble of rocks, the interstices filled with decaying vegetation; it was, however, the only possible place in the valley, and suited us perfectly when once platforms had been built spanning the chasms.

We were in a cup, hemmed in on all sides by mountains. Immediately behind the camp was an imperceptibly moving landslide, reeking with moisture, over which hovered clouds of butterflies sucking the water from the wet rocks. The movement of the earth

ROCK FORMATION

had left exposed to view many seams of coal varying in thickness from four to eight inches, but so soft and poor in quality that when placed in the fire it would scarcely burn. Dr. Lorentz found coal of a like quality above the Nord River, and brought some back with him to experiment with in his launch. The Hon. Stanisforth Smith, during his late adventurous journey in the British section of the island, found coal which he declared was of a hard and good quality. It seems likely therefore that coal exists in almost all parts of this land, but whether it can ever be worked and made to pay is another matter.

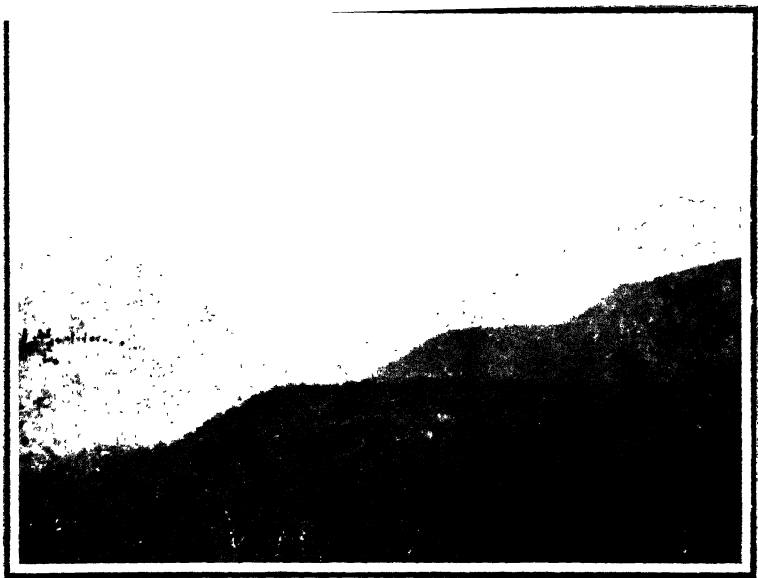
It was not easy to discover the rock formation in the valley of the Iwaka. In the actual bed of the river a channel had been cut through many strata of perpendicular slate, while on either side clay, sandstone, and the main stratum of limestone could be distinguished. Lower down the river a few boulders of granite were found, small in size and far from numerous, while at several spots there were traces of tin, copper, and much iron ore. From a commercial point of view, a discovery of greater interest was the dead patches of forest found near the coal system and on the ridge to the west of the camp. Here there were strong indications of the presence of kerosene oil, sufficient in quantity to have killed many square yards of vegetation. What we would like to have discovered was gold, but despite much washing at every likely spot, not a grain of this metal was brought to light. Beyond this we were unable to discover anything of the rocks and minerals of the plains and lower foothills, for unless a cliff or landslide is examined immediately it is formed it becomes so quickly clothed in dense scrub as to defy all attempts at investigation.

UNPROMISING PROSPECTS

Though the plain was shut in on every side, one could not but admire the immediate surroundings of the camp. At our feet tumbled the foaming waters, on this day clear of mud ; whilst immediately opposite, growing from the very water's edge, and from the crevices of the jagged slate rocks, flourished the most luxurious masses of tropical vegetation, chief amongst which was the beautiful tree fern. From the background rose mighty mountains towering in every direction, their summits wreathed in fleecy clouds, the lower slopes tinted by the setting sun, altogether forming a most impressive scene of tropical glory.

Our pleasure in the surroundings, however, was soon dispelled by the news brought in by Marshall, whose discoveries with regard to the prospects of a further advance to the east had been anything but promising. The river had been examined for miles up-stream and down without a ford being located or a tributary found, which by diminishing the volume of the main stream might enable a crossing to be made. Dozens of trees had been felled in fruitless attempts to span the torrent. The worst news of all was that the Iwaka for the next three or four miles continued to flow from the north, and from what could be seen from the lie of the mountains there was no reason to expect a change of direction.

A path had been cut for over two miles up the south spur of a mountain lying to the north of the camp, and this, if it led nowhere in particular, at least promised a fair view of the surrounding country and the general course of the river. Along this path Marshall and I set out at daybreak, the going underfoot being excellent and the ascent gradual and regular. In this case a natural path had been formed along the crest, and the



FROM ABOVE IWAKA CAMP

Looking towards Wataikwa Mountain. Precipice under cloud in the background.



THE WATAIKWA RIVER

This river, either by wading or swimming, had to be crossed daily.

AN ARDUOUS CLIMB

dead timber having fallen down the slopes on either hand left an unencumbered line between. By ten o'clock we had climbed to an altitude of 2500 feet and entered a zone of stunted moss-covered trees streaming with moisture. Though we hurried on as quickly as possible and wielded the kukries with the utmost energy, the summit was not reached before the neighbouring country had become shrouded in mist. We were able to see, however, that when some trees had been felled a fine view would be obtainable in all directions. There was nothing to be gained by waiting where we were, for in New Guinea when once clouds have descended upon the mountains there is no change, so it remains for the rest of the day. We therefore returned to camp for the night.

Next morning, accompanied by two Gurkhas and one coolie, I set out again as soon as it was light, each of us laden to his utmost capacity with tent, blankets, food and cooking pots, for I was determined not to return without having made a detailed map of the whole of the surrounding country. None of us, with the exception of the coolie, were used to carrying heavy loads, and having piled the things upon each other's backs we set out, much amused at our appearance and as frisky as kittens. What animal we resembled on reaching the top I do not know, but I know that we arrived at long intervals and very silent. I had no idea that loads could increase in weight so rapidly. The summit was cleared of trees and the tent erected, but until sufficient water had been squeezed from the moss no food could be prepared. Spring water was not obtainable on the summit, but with the regular evening downpour of rain there was no difficulty in keeping the pots well filled.

A GRAND OUTLOOK

Morning broke to show us that our shelter was perched on the highest pinnacle, with mountains all around, like a lighthouse in a tempestuous sea. The outlook was grand in the extreme, and the atmosphere so clear that the very rocks of the great precipice to the north could be clearly distinguished, but with the darkness of the night still hanging in the valleys it was as yet impossible to make out the true course of the Iwaka. Gaze as we might, we could arrive at no other conclusion than that the valley straight ahead *must* be the valley of the Wataikwa, in which case the Iwaka *must* flow from the east at a spot we had already passed. But this could not be, for the east was hemmed in by a ring of mountains through which no river could possibly have passed.

The wind changed, and with it was borne the distant sound of rushing waters, not ahead to the north but from the valley to the north-west. Further investigation with glasses discovered a dark and gloomy ravine cutting the southern slopes of Wataikwa Mountain, from which issued the river of that name. There was no mistake about it this time, as its course could be traced close to our old camping ground of months before, and past the Wataikwa camp itself. So completely hidden was the gorge which had thrown us wrong that even when looking into it from this elevated position its sheer walls were hardly to be seen, and no clue of its existence could possibly have been obtained from the plains. Had Marshall and I during our journey six months ago been able to continue up its bed for a few more hundred yards, we should have solved the problem and saved ourselves much labour. Since the old camping ground could be distinguished four miles to the south-west, and as the slopes on that side of the mountain

A GRAND OUTLOOK

were easy, a path could have been cut up to where we were in one day's march.

Directly to the east lay the ring of mountains—the goal of this present journey. Scarcely six miles separated us from the eastern brim, and yet how hopeless the task now appeared, with the Iwaka running strong and impassable between.

To make quite sure that the gorge to the north *did* contain the Iwaka, and to remove any remaining uncertainty that the latter might be a tributary of the Wataikwa, we dropped on to the col and commenced the climb to the mountain itself. From there the river could be seen, and at length satisfied that no other course lay open to us but to cross the Iwaka, we retired to the main camp on the river, arriving at the very moment when Wollaston appeared with fresh stores.

The journey to the mountain-top had been successful in two ways; it had enabled me to add a large amount of accurate plane-table work to the map, and had also conclusively proved that if a further advance was to be made eastwards, some means must be found to cross the Iwaka River.

No time was to be lost. Ten days' rations for the whole force were now collected, and within this period the advance and return had to be completed.

CHAPTER XXII

Searching for a ford—A dangerous undertaking—A plucky Gurkha—Building a bridge—Second stage of our advance—The stores an important factor—Effects of temperature—Bad going—Reduced rations—Miserable coolies—A race with the clouds—Success—A fine view—The Nassau range—Oil and minerals—The Utaqua River—Mount Idenburg—Tapiro Mountain—Plains and rivers—Doctor Lorentz—The price of success—The return journey—A feast and its results

UP till now every attempt to span or ford the river had ended ignominiously, as the trees, breaking in two as they fell across the chasm or failing to reach the opposite bank, were at once swept away by the torrent.

Having collected the Gurkhas and coolies and explained to them what was required, a reward of a hundred guilders was offered to the man or party of men who would construct and form a bridge which would allow our force to cross to the opposite bank of the river. Full of eagerness to win this substantial sum of money, the men split up into several parties and went off in the hopes of felling a sufficiently high tree with which to span the torrent, the Gurkhas moving down- and the coolies up-stream. The result of the coolies endeavours was soon evident to us from the numerous great trees which came swirling past the camp all with their backs broken. In the evening they returned dejected to report complete failure. The Gurkhas, on the other hand, came in about five o'clock with the news that one of them had succeeded in crossing the river with the aid of a rattan fastened to his waist. He had proceeded up-stream to a tree

A DANGEROUS UNDERTAKING

which had been previously noted from the right bank as standing in a favourable position, and had felled it with such precision that it had remained spanning the river two feet above the water. Even though the river was lower than usual owing to the fine weather, the accomplishment of this feat required both pluck and enterprise, and was a feather in the cap of the Gurkhas.

Having hastened to the spot and inspected the trunk, we fixed it more firmly with stones, and were able to suspend a single strand of rattan creeper from bank to bank at a more suitable site some small distance up the river. Fortune had certainly been on our side so far, but lest we should find the problem too easy, an immense flood poured down the river that night and swept the frail bridge out of existence. A flimsy rope of rattan now formed our only connection with the opposite bank, and unless one man at least could be got across, the construction of a permanent bridge would be impossible. Three feet beneath the rattan raced the swollen torrent, and if the rope should break it was certain death to anyone trying to cross. Still the bridge, even at the risk of life, had to be built somehow, otherwise any further advance would be checked and our past efforts wasted. I offered heavy bribes to the coolies to attempt the passage, but though they were eager enough to have the money, none would venture on to the swinging rope. The value of the bribe was increased several times but without effect, not a man would undertake the job; and at heart I sympathised with their fears.

There was, however, an exceptionally brave man present, one who was ready to make the attempt without offer of reward. Jangbir, a Gurkha and an ex-military policeman, who had recently been promoted

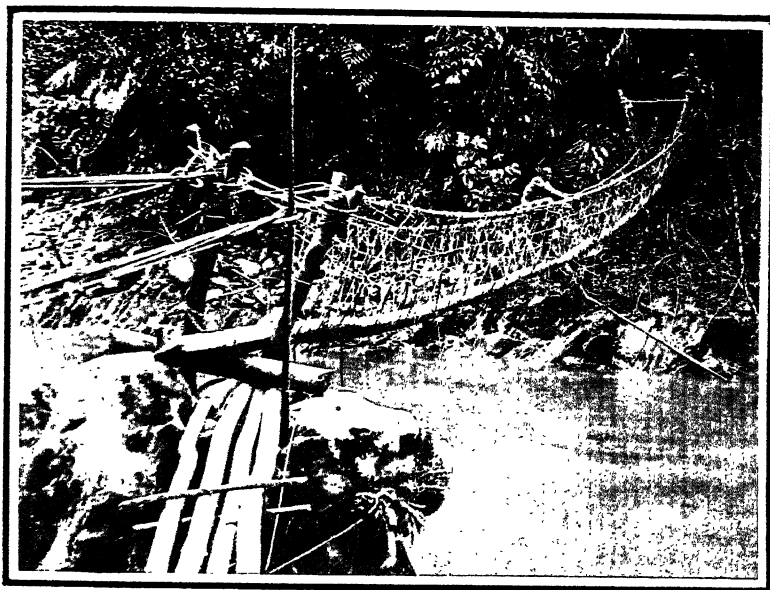
A PLUCKY GURKHA

Havildar, was noticed unostentatiously fixing a girdle of rattan round his waist. He and another excellent compatriot, Herker Jit, had come to the conclusion that Jangbir, being the lighter man, had the best chance of hauling himself across hand-over-hand and might succeed provided the strand did not break. In the event of the rope giving way, his life might still be saved by a line of thin rattan fastened round the waist, by which his comrades could draw him back to safety. The feat was a particularly nasty one to attempt, for the rattan was weak and flimsy, and were it to sag in the torrent the tremendous strain would inevitably tear the man from his hold.

Willing hands grasped the rope whilst Jangbir lowered himself into the river and, hand-over-hand, started on his perilous journey. The force of the current dragged his body level with the surface, but he made rapid progress till half-way across when the speed slackened owing to his being now on the upward grade. It gradually became slower and slower, for the strain was beginning to tell, and strive as he might he could not pass the three-quarter mark. Every eye was fixed on Jangbir, and encouraging shouts raised urging him to make one supreme effort, and then—the waist rope caught the water and the weight stopped him completely! To draw it taut was only to make the position more critical, so it was paid out rapidly in the hope that the momentary relief might enable him to continue his efforts. This unfortunately only made matters worse, for the force of the water was such that it was all he could do to maintain his grip. It was now only a matter of seconds when he must be torn away and the second stage of the proceedings, the attempt to save his life by means of the waist line,



THE GURKHA JANGBIR
Hero of the bridge-building episode.



SPANNING THE TORRENT
The bridge thrown by the expedition across the Iwaka River.

BUILDING A BRIDGE

would have to be carried out. Then happened the most fortunate thing imaginable. The waist line, of which quite eighty feet were taking the full force of the water, suddenly snapped. Relieved of the weight, Jangbir, with one last effort, completed the few remaining yards, and pulled himself exhausted on to the land. I never felt so thankful in my life. For it was one of the best actions carried out in cold blood that I have ever had the good fortune to witness.

With one man on the opposite bank the work of building the bridge proceeded apace; more rattan was passed across and tied to the trees until finally a strand of five thicknesses was in position, along which an agile man could pass in comparative safety.

All through the second day the work was continued, and by nightfall the bridge was complete, when even a one-legged cripple might have crossed with ease. It was built after the style of the ordinary Himalayan suspension bridges; the two upper parallels, each formed of many strands, served as handrails, whilst below and between them hung the footway, also consisting of one thick rope. From one handrail to the other, and beneath the foot-rope were passed loops, so that the weight of the passenger should be equally distributed, and the whole sufficiently strong to allow the laden coolies to cross in safety.

The building of the bridge had taken three out of the ten days for which food supplies had been collected; a serious loss, and one which could not be rectified by sending any more coolies to the rear, as out of the forty-eight landed six weeks previously there only remained nineteen fit for work, and every one of these was required to carry forward rice and equipment.

On the morning of the 8th February, thirteen months

THE AVAILABLE STORES

after our landing on the coast, the bridge was crossed and the next stage of the advance begun. The path to the east, which followed a gently sloping valley, intersected with numerous ravines, had already been prepared for a distance of a couple of miles, and along this good progress was made. The three Gurkhas who had been told off to clear the way worked hard and fast, until at midday they struck a new valley and a fresh river, the latter as clear as crystal and fordable. It flowed, as we had hoped and expected, from the ring of mountains we wished to reach. Pushing on for another mile up-stream we camped for the night on a fairly open spit of sand, which was quickly prepared for the tents, though a swarm of infuriated bees for some time disputed its possession with us. We were actually in the gorge of the amphitheatre of mountains, and the road to be followed was clearly defined by the valley ahead. On the next day only four miles were covered, the going getting worse and worse as we went on. Ravines from the neighbouring mountains not only impeded our passage, but forced us now and again to make a detour far up the hillside, away from the river.

We had quite counted on turning the corner of the mountain at the end of this day's march, but an unexpected spur not only prevented this, but in addition formed an obstacle to circumvent which would entail a march of many extra miles. The stores available were now only sufficient for five more days, and it was fully realised that if we continued the march in the present direction it was more than probable that we should be unable to reach the summit at all. The end of the mountain ring lay to the east, and we therefore decided to force a passage up this spur and then to work our way along the top; though we quite appreciated the

EFFECTS OF TEMPERATURE

fact that the view would probably not be so extensive as that to be obtained from Mount Godman, we felt that it was better to make certain of what was within our reach than to run the risk of not obtaining any results at all.

Accordingly the next morning we began to ascend the spur of this ugly rounded mass. At first much cutting had to be done and the progress was slow, but once on the narrow ridge the going was better, and we eventually reached a camping-ground over two thousand feet above the river, and three thousand two hundred above the sea. Further progress that day was not possible, for the limit within which water was obtainable had already been passed, and there was no immediate prospect of rain. Water sufficient for the cooking of the rice and assuaging our thirst was obtained that night from a waterhole in the neighbouring ravine.

As might be expected in this land of adversity and disappointment, now that we would have welcomed it, no rain fell, and as there was no chance of any springs being found higher up, we might anticipate further trouble unless a storm should break on the following day.

The ground chosen for the bivouac was particularly bad, but it was the only spot at all possible. Before long the camp took shape, trees were felled and laid across the hollows and fixed from rock to rock, or balanced on other trees. Amidst the bustle of pitching the tents there was time to notice and appreciate the difference in temperature compared with that to which we had so long been accustomed. Here, though damp, it was both cool and fresh, and though we enjoyed the change, it was not at all to the liking of the coolies. Two men fell out from sickness, Pulman, a Gurkha, who had damaged his leg badly when ford-

BAD GOING

ing the river and was now incapable of walking, and a coolie stricken with fever.

At daybreak the ascent was continued, and as the forest of the previous day gave place to a labyrinth of tangled vegetation, four cutters were now required. The great trees, checked in their upward growth, sought to spread their limbs nearer to the ground, twining and twisting round one another, and forming such a confused mass of vegetation as to check all advance till, by slashing and cutting, a passage was made.

Everything was reeking with moisture. Glistening drops of water fell incessantly from the festoons of moss which, hanging from the trees, had the appearance of the softest of mantles. Exquisitely beautiful were the caves thus formed, over, through, and under which we forced our way. They seemed like veritable enchanted halls until the incautious shaking of a bough brought down such a shower of earth and water as to dispel the illusion.

Up and up we moved along a narrow ridge toward our goal, every now and then catching glorious peeps of the plains below, which at this early hour sparkled with light where the sun's rays were reflected from the winding rivers. On arriving at the summit another disappointment awaited us; so rounded was it that even from the top of the highest trees no view could be obtained. We had now reached an altitude of 5400 feet, and here the camp was pitched. During the last 1000 feet of the ascent no solid ground had been seen, and we had to walk on a thick layer of live or dead timber which covered the soil. On this insecure footing the heavier members of the party had fared badly, for what would carry a nine-stone man was often unable to bear the weight of an extra three



WOMEN USING THE STONE AXE TO SPLIT FIREWOOD



THE CAMP AT 5400 FEET

The tents pitched on a six-foot layer of decaying timber.

REDUCED RATIONS

stone. Here, at the camp, many feet of timber and rank vegetation lay between us and the ground.

The cutting party sent forward to prepare a road for the morrow reported, on their return at dusk, that the going on the summit and along the crest of the hills became worse and worse the farther they progressed.

No rain fell during the night, and the single tin of water which had been carried throughout the day's march had to be supplemented by moisture wrung from the moss. Allowing sufficient food for the return journey, but one day's rations now remained, and even this was less than the usual quantity served out.

The next morning, leaving the camp standing, so as to shelter the miserable coolies, we set out at daybreak, and taking with us the four best cutters, moved along the path previously prepared. Progress was terribly slow, and when the summit was reached we found that it would be necessary to advance still farther, as no view was to be obtained in any direction. The ridge now began to narrow, falling away steeply on either hand. Hour after hour was spent hacking and hewing a way, the occasional glimpses of the country below encouraging us in our labours. Then, at a height of 5600 feet, we suddenly attained our object and arrived at the very kind of spot we had so long been striving to find.

We found ourselves on the narrowest of ridges, with the ground, bare of trees, dropping sheer on either side. The low shrubs were at once removed, and there we sat hoping against hope that the mist might clear. Instead of this it gave way to a dense fog, which we knew full well would last till nightfall. With our spirits at a low ebb we returned to camp, and ordered that the one small ration that remained should be divided into two, for to retire when success was well

MISERABLE COOLIES

within our grasp was quite out of the question. With only dirty water in which to cook the rice, and knowing that they would have to spend one day more, frozen to the marrow, in their present camp, the coolies on hearing this were reduced to a pitiable state of distress. Indeed, a more miserable-looking collection of men it would be hard to imagine. Huddled together for warmth, too wretched even to light a fire or to raise a leafy protection against the wind, they had remained almost inanimate since daybreak—such were the men who had been enlisted to undertake the journey to the snows! Had the most perfect road lain before us, and had the gradient been ever so little upward, it is doubtful if we could have got more than one other march out of them.

The night was cold and damp, so much so that the men detailed for the advance were astir long before the first faint light of the coming sun showed in the east. A hasty cup of tea and we were off along the old track. In the dark this was found to be a continuous series of pitfalls owing to the most rotten pieces of timber having collapsed under the strain of yesterday's traffic. We scrambled and climbed on those that would not break, or wormed our way beneath, increasing the pace as we drew nearer and nearer our goal. The march soon developed into a race, the fear of the clouds which we knew would form as soon as the sun was an hour in the skies, spurring us on to fresh efforts, for we were determined that nothing should defeat us now that our object was so nearly attained. Wet to the skin from the exercise and the drippings off the trees, we broke out at last upon the open ridge to find not a cloud in the sky, and the most glorious view that I have ever seen unfolded before our eyes.

A FINE VIEW

Not a moment was to be lost—we had no time at present to examine the beauties of the landscape; the first thing to do was to set up the plane-table and fix the position of as many as possible of the long-desired points. Steadily the detail of the map was filled in, till at length all was finished, and not a moment too soon, since the clouds had already hidden the higher peaks from view and were rolling down the distant mountain sides.

For another hour we sat and gazed and gazed, first one way then another. In all directions the land lay spread before us; to every point of the compass could we turn, recalling to our minds our past failures and speculating as to the possibilities for exploration in the future. How different the land looked when seen from above! Where we had imagined lay the course of one river we found another; a hill here, a ravine there, were now exposed to view, though all had been hidden from the level of the plain; and we realised how impossible it is to discover the trend of rivers in a mountainous country when merely viewing them from low ground.

To the south, for in that direction our eyes first wandered, in the dim and hazy distance stretched the faint coast line, straight and unbroken except for three large bays formed by the mouths of the Kamura, and what we took to be the Aiika and Newerip rivers—bays capacious enough to hold the entire fleets of Great Britain, but rendered useless to the smallest craft by the bars which either close their mouths, or upon which breaks so heavy a surf that only in the calmest weather can canoes cross in safety. From the distant outline of the coast almost to our feet, and from the Charles Louis mountains in the far west for another fifty miles to where the rugged spurs of Mount Carstensz closed

A FINE VIEW

the view in the east, the interminable jungle stretched unbroken. It was through this dark and almost trackless forest, hideous in its monotony, that we had been attempting to force our way for so many weeks. Not a single break was there, not a clearing, not a lake or grassy plain—not even a whisp of smoke in the midst of the immensity—nothing but the black and forbidding forest shrouding the bogs and fetid vapours which lay beneath, and tenanted only by birds of gorgeous plumage, by snakes and other creeping things. Through this interminable growth turned and twisted great rivers, vanishing into the gloom only to appear again as glittering streaks of light, beautified by the straggling lines of mist which still resisted the warmth of the morning sun. At our feet the mountains fell abruptly away to the plain, over five thousand feet below.

Turning to the north, in the foreground we could see the ring of mountains upon the end of which we stood, culminating in Mount Godman, a long five miles away, although in the rarefied air appearing close at hand.

Beyond this, standing out hard and clear, rose the great precipice, the southern face of the central range which divides this land into two distinct parts, the northern and the southern. Black and forbidding towered the great cliff, seared and scarred with the passing of ages, and forming a barrier which at this point would defy any efforts of man to scale. Formed of hard limestone, the stratification of which could easily be seen with the naked eye even at this distance, it stretches from Mount Carstensz in the east for eighty miles to the west, where it gradually drops away to the valley dividing it from the Charles Louis Range. The highest point is Mount Leonard Darwin, named after

THE NASSAU RANGE

the late President of the Royal Geographical Society, a castellated peak near the centre, with an altitude of 14,000 feet above sea-level. The face here has a clear drop of little short of 10,000 feet, or about $1\frac{1}{2}$ miles—far and away the greatest precipice in the world. To the east and west it is nearly as high, but the full sheer heights we were unable to determine with exactitude, as we never had the theodolite with us when the summit and foot were visible at the same time, or I should say when the foot was to be seen from a point the height of which had been already fixed. Nevertheless 6500 feet of sheer rock was measured from the spit of sand at the mouth of the Mimika, and the remaining distance had to be calculated by eye, and by the known drop of the river.

As the range is continuous, the limestone is probably of the same age as that met with by Dr. Lorentz one hundred and fifty miles farther to the east. Her Majesty the Queen of Holland has graciously permitted us to name this particular section the Nassau Range. Mighty boulders and ridges of bare rock lie along the foot of the precipice, some too steep to allow any vegetation to obtain a foothold; others kinder in their slopes, being clothed to their summits.

Though in the light of our present knowledge it would be rash to state this as a certainty, taking into consideration the lie of the strata, which dip to the north at an angle of 25° , the absence of any fair-sized streams running from the north and beyond, and the fact that we could see no mountains still farther off, it appears very probable that the precipice forms the water-parting between north and south Dutch New Guinea in this area.

The face of the rock shows little signs of ancient weathering, and in the plains stretching from the foot-

OIL AND MINERALS

hills to the sea the soil is entirely alluvial, with no outcrops of rock even in the river-beds. These facts, together with the shallowness of the Arafura Sea, lead one to believe that a great "fault" runs from end to end of the island.

Of what the mountains from the foot of the precipice to the plains consist it is impossible to say with certainty; from what was revealed from one or two landslides it seems probable that they are mainly composed of limestone. I have already mentioned the other rock formations which we came across, namely, the outcrop of coal at a distance of nineteen miles from the precipice, and the perpendicular slate formation in the Iwaka bed near the same place. In addition, a few granite boulders are to be found scattered about the beds of the rivers, and there are indications of the presence of iron, tin, and copper. Though the finding of oil-bearing ground near the Iwaka camp and close to the coal strata is interesting, owing to the prohibitive cost of development and transport the discovery possesses little commercial value.

In the middle distance, between the great precipice and the point where we were standing, rose the splendid peaks of the Wataikwa and 'Tuaba mountains, with their outlying spurs nearly as massive as themselves.

Then to the east, the conspicuous and not over-beautiful Cock's Comb Mountain met the eye, to which, curiously enough, the Dutch Utakwa expedition had given an identical name. Beyond lay the valley of the Utakwa, a river which was then being explored by the expedition under Lieutenant van der Bie and Lieutenant Postama. That great river had originally been chosen as our line of communication, but was abandoned in favour of the Mimika. For seventeen

MOUNT IDENBURG

miles from the mouth of the Utaikwa the steamer could ascend with ease to the first base camp, then for two days more navigation was by means of launch, and a third day by canoe. From this most advanced point the exploring party had pushed on and cut their way for seven marches through the forest to within seventeen miles of Mount Carstensz. They had been nearly one year in the country, but such difficulties had been encountered, mainly connected with transport, that the expedition had eventually been withdrawn and the members transferred to take part in the Island River expedition farther to the east.

Cock's Comb was already partly lost in cloud, but to the north towered the mighty peaks of Carstensz, 16,000 feet of rock and snow, and the three newly-discovered pinnacles of Mount Idenburg, so named by us after the Governor-General of the Netherlands India. This great mountain is a stupendous mass of wild and broken rock, steep and precipitous below, seared with black and uninviting ravines and fissures. Above, on an easier slope, a sheet of snow and ice stretches for miles; here a smooth snowfield, there a tumbled glacier, partly in shadow, partly in glittering light, but standing out all the whiter by contrast with the dark rock below. These snows, and also two other peaks a mile or so to the north, had all been visible from the mouth of the Mimika, but from nowhere could a sufficiently detailed examination of the great mass be made to enable one to judge whether it is climbable by man. This question can only be solved by actual trial, and the attempt is being undertaken at this present moment (December 1912) by Wollaston, who has again entered the country. This time he has a well-equipped and perfectly-organised expedition, and with the Utaikwa or

TAPIRO MOUNTAIN

some other equally favourable river as a line of advance, it is my confident and earnest hope that he will achieve success in the same way as did Dr. Lorentz in his second attempt to climb Wilhelmina Peak. If he succeed—and I believe that he will—it will be by taking a line of advance up some narrow valley to the west of Mount Carstensch, and between that and Mount Idenburg. Whether he conquers or not great difficulties lie before him, of which cold, want of food, transport troubles, and precipitous cliffs are only a few. In spite of these obstacles, however, once he has arrived at the snows at a height of 14,000 feet, the way to the summit will prove to be comparatively easy compared with that which lies behind.

Turning now to the last quarter of the compass, the Tapiro Mountain with its spurs and neighbouring ridges lay to the west. This range, along the slopes of which we had so often moved, is the home of the small mountain men; never a sign, however, was there of the Mimika River, which, as we well knew, rose at its southern foot and flowed from thence direct to the sea. It was too small and too insignificant to show itself in the company of its greater sisters, and we searched in vain for a break in the forest which might indicate its presence. The Kaparé, several miles beyond, could be easily distinguished throughout its course from the mountains to the Arafura Sea.

As gazing over this vast country we examined from above the plains and rivers over which and through which we had passed, and observed the new ones which still blocked the forward road, and the turns and twists of the forest-clad ravines that still remained to be conquered before the highlands of perpetual snow could be reached, it was borne upon us that the task of

DOCTOR LORENTZ

reaching Carstensz, with the Mimika as a line of communication and approach, was utterly impossible. As long as the expedition was tied to this line the quality of the transport and the food-supplies mattered little. Had these been better we should have penetrated farther into the interior, but should have added little more to our knowledge of the country. These errors of direction are, however, inevitable when pioneer exploration is being carried out in whatever part of the world it may be. Now that the correct river or rivers for a line of advance are known, there is no reason why a determined and perfectly equipped party should not succeed in reaching Carstensz. When once the river has been selected it must be kept to and never left, and however slow the advance may be, however rough the road, there must be no weakening in the determination to push onward, ever onward. That is the only way to obtain successful results in this otherwise impossible country.

Doctor Lorentz, a traveller whose work has earned him well-deserved credit, some few years ago attempted the task of reaching the snows from a point one hundred and fifty miles to the east of where we were working. In 1907, with a well-equipped expedition, he had worked up the Nord River for many marches, in an endeavour to reach Wilhelmina Peak, but was at length forced to retire. This was, however, not till after he had found a practicable spur leading straight to his goal. Returning in 1909 with a freshly-equipped expedition, and working on the knowledge of the country he had already acquired, he was this time completely successful.

In this district, where all rivers flow from the north to the south, it is not practicable to attempt, as we had done, to force a way east and west, for any river one

THE PRICE OF SUCCESS

comes across may at any time cut the line of retreat or block the line of advance. In addition to this, thick and almost impenetrable jungle, the total absence of local food-supplies and means of transport, and the periodic flooding of the country during the rainy seasons, combine to render such cross journeys an altogether impossible feat.

For an hour we sat and gazed upon the scene, absorbed in its grandeur and desolation. It is a land whose past history is hidden in the mists of time, and one without a future, since it can never be occupied by civilised settlers. Here, as everywhere, a weight of silence lay upon the scene; there was not a sound, nothing beyond the chatter of two small black-caps, twittering with surprise at the unwonted presence of man.

Our work was done. Our quest, though falling short of what we had hoped for, had succeeded. But at what a cost of life, money, and time!

And so back to camp, to pack up for the morrow, and once more to make the most of one of the meanest of meals of which I had ever partaken, and to dream, whilst huddled in the blankets, of the joys of home, which were now measurably within our reach.

Down poured the rain, and with it rose the spirits of the coolies; thirst might be quenched, and water collected in which to cook their last handful of rice: and above everything else, there was joy in the thought that to-morrow they were to start the return journey home from this dreaded jungle, and that before long the flesh-pots of Amboina would be seen again.

Cramer and his men had unfortunately been compelled to return the day before, their supplies having come to an end. Picking up the sick men we had left

THE RETURN JOURNEY

behind, he had carried them to the river camp, whence they were taken on by us. Our coolies now carrying light loads, the Iwaka camp was reached in one long march, and there we found that Cramer had already retired, and that Grant, having met with considerable success in collecting new species of birds, had likewise followed suit and gone back at full speed.

We had hardly realised the eagerness felt by everyone to cover the return journey in the shortest possible time, and had calculated upon an average of $1\frac{1}{2}$ marches each day. As a matter of fact, we accomplished double marches, and no halt was called till the Wataikwa was reached and the whole party was once more together. A large tent and a couple of flies, together with a few of the more useless articles, had been left standing on the bank of the Iwaka River, and there they may remain to the present day, as it is hardly likely that any of the Papuans will revisit that desolate spot. The bridge also must long since have departed, as rattan ropes will not stand a continual strain for more than two months at the outside.

We had made up our minds a long time before that the return to the Wataikwa should be celebrated by a great feast, and though no meat was to be obtained, we had reserved for this event a bottle of whisky and a small plum-pudding which had been brought by Shortridge on his return from Australia.

The time had now arrived.

Marshall and I, feeling that it was a long time to wait till dinner, thought that we should like a taste of the drink early in the afternoon; the pop of the cork, however, was too much for the keen ears of Wollaston, who quickly came out of his tent and appeared on the scene. After some discussion it was decided that the occasion

A FEAST AND ITS RESULTS

was worthy of a long drink, that the jollification should be thorough, and the bottle finished that evening. The plan was carried out in its entirety, but the results were most disappointing—the more we drank the more depressed we became; and then, as a climax, when the diminutive plum-pudding was placed before us there remained not a drop of whisky, the flaming spirit of which might have served to conceal its meagre proportions.

We retired to bed more disappointed than words can tell.

CHAPTER XXIII

Preparing to leave—Bashful pygmy women—A hurricane—Motor boat on fire—The Atoeka River—A cordial welcome—Inspecting a village—Dancing halls—A return visit—Keen traders—The Kamura—A collision—Kamura village—A wild-looking crew—Attacked—An erratic motor—A glorious bay—Gorgeous coloured fish—Return to Wakatimi

THERE still remained the exploration of the coast, and the transference of the stores and equipment from Parimau to Wakatimi, before we could consider ourselves free to leave the country. An application had already been forwarded to the Dutch authorities, requesting that, in accordance with a promise given to us when in Batavia by the Governor-General, a ship might be despatched in order to transport the entire force from New Guinea to Amboina. No boat could arrive for this purpose till after the 1st April, so that if we split forces there was more than sufficient time to complete everything which remained to be done.

It will be remembered that during our last visit to Wambirimi, the home of the pygmies, we were led to believe that the women of the tribe had been on the verge of showing themselves, and it was now thought possible that heavier bribes, added to the knowledge that we were about to leave the country for good, would be sufficient inducement to tempt them to leave their hiding-places and come into the open. Strong in this belief, Marshall and Wollaston at once set out for the hills on their seven days' journey, well equipped to take photographs and measurements of these bashful ladies when once their scruples had been overcome.

BASHFUL PYGMY WOMEN

They camped on the same ground as before, and were quite prepared to meet with as varied experiences as had been the case with us four months previously; the little men, however, now that they knew we were not a dangerous crew, and had not come with the intention of burning their huts or devastating their plantations, hardly turned up in sufficient numbers to make it worth while unpacking the cameras. The women were absent as usual, so to induce the men of the tribe to bring them back, a still more profuse and enticing array of bribes was laid out than on the former visit. At first one axe was offered, and this failing to work the oracle, two were finally held out as an inducement for them to do what we wished; strange to say, it was all without effect, though the price was really a preposterous one, one axe alone being sufficient in the plains to purchase a woman outright. This was pointed out to them, and when it was further explained that only the shortest of appearances was required, some of the youths, desirous of obtaining the reward, were seen to waver, and would probably have succumbed to the temptation had it not been for the disagreeable old headman, whose influence was sufficient to veto any such attempt on their part. A whole day was wasted in trying to persuade these stubborn people, and as there was no sign of yielding, Wollaston and Marshall packed up their belongings, and disregarding the appeals for free gifts of axes, took every piece of trade goods back to Parimau.

We could never make out why this hill tribe refused to bring forward their women-folk. They had had intercourse with us for over a year, and knew that our promises of reward were always fulfilled, and that no woman from the races of the plains had ever been

A HURRICANE

interfered with. Yet show them they would not, and to our great regret we had to leave the country without obtaining a photograph or even a fleeting glimpse of the feminine half of this interesting race of pygmies.

It has been suggested that the pygmies possibly objected to bring forward their women on account of the presence of the big men from the plains. Women in the lowlands are scarce, and it is conceivable that such covetous desires would have risen in the breasts of the Papuans as to have led to a raid on the mountain village as soon as we were clear of the country.

To obtain no sight of the women was a great disappointment to all concerned, for, judging by the men, it is probable that the women would have averaged but little over 4 feet in height; as to their appearance, style of dress, and what ornaments they wore, if any, we were left in complete ignorance.

While this journey was in progress I had moved with the first lot of baggage to Wakatimi, to find on arrival that during our absence in the hills a hurricane had swept over the camp, levelling one-third of the houses to the ground, including the hospital, a barrack-room, two storehouses, and our dining and sleeping rooms. The Dutch soldiers and convicts had, however, worked so well under the orders of a quartermaster that little evidence of the damage could now be seen, and new houses had been built of sufficient strength to resist any storm under the force of a cyclone.

The work of surveying the rivers to the east of the Mimika was postponed for several days owing to two reasons; firstly, because the west monsoon, which was then blowing, rendered the bar at the mouth of the

THE ATOEKA RIVER

river impassable to craft of any kind; and secondly, because the motor boat had been set on fire. Fortunately at the time of the accident she was moored to the pier with plenty of help close at hand, so that by throwing in dozens of bucketsful of dry earth the flames were finally smothered. It looked at one time as if nothing could save her, as the entire fore end was wrapped in flames, and the petrol tank burst, sending clouds of smoke and flame high into the air. Beyond this, however, little damage was done, and the hull was hardly scorched, mainly owing to the sodden state of her timbers. Her two months' immersion in the river was of some value after all. Two days' hard work and she was again ready for use.

The boat being once more in order and the weather improving, I left on 3rd March, taking in tow the yawl in case it might be necessary to effect a landing on the coast.

From the Mimika mouth we turned sharp to the east, and in three hours had arrived off a promising opening believed to be the Atoeka River, and one of the supposed mouths of the Tuaba and Wataikwa. The entrance was perfect, and even with the eighteen-foot pole which we carried, as being of more practical use than the lead, no bar could be found at the mouth. Inside was a bay, narrower than that of the Mimika estuary but considerably deeper, the vegetation along the banks being of the same description. The Mimika is broad and shallow, and even within the upper reaches of the tidal zone is blocked with timber at low water. The Atoeka, on the other hand, is deeper, swifter, and entirely free from artificial obstruction. Higher up than three or four miles from the mouth, however, no boat drawing more than five feet of water

A CORDIAL WELCOME

can proceed when the tide is low, unless there has been recent heavy rainfall in the hills. From the coldness of the water and the amount of gritty sediment carried down, it is evident that the source of the river is to be found in the mountains, and not, as in the case of the Mimika, in the low-lying jungle swamps.

So numerous were the bends and loops that unless one knew the lie of the land it would be impossible to tell in what direction the advance was being made. So it continued, till early in the afternoon we came upon a boatload of unsuspecting Papuans paddling slowly up-stream. For a moment panic prevailed, then one of the occupants of the canoes recognising who we were, sent up such a shout of welcome that it was heard in a village some distance away. In a few minutes we reached the flanking huts of the great straggling village of Atoeka, from whence women and children were already pouring out, an excited and noisy crowd. A wild race took place as to who should be the first to offer a welcome, the older women rolling in the mud and slime as is customary, smearing themselves from head to foot with filth and then dancing with the usual extravagant postures, keeping it up without intermission while the goods were being landed from the launch.

Hundreds of men had by this time appeared upon the river bank, some of whom busied themselves in clearing the ground of rubbish, whilst the great majority so impeded the work of unloading the launch, that at length a railing had to be hastily erected and the men forced behind the barrier. The pressure still increasing, I announced my intention of inspecting the village. This not only drew away the majority of the spectators, but put them all in high good humour, for

DANCING HALLS

the people in this district are never so happy as when showing you their village, and in particular their own family abode. The village being of great extent, and as far as one could see every hut being occupied, my escort of willing guides could not have numbered less than a couple of hundred men. Each thought it his duty to be in the front rank, and as the dogs and pigs of the village collected there also, the whole formed a parade the like of which I have never seen before.

The village of Atoeka is situated on the right bank of the river just below a great bend. The huts stretch along the water's edge in one unbroken line for close on 1500 yards, except where two great dancing halls rise fifteen to twenty feet above the other buildings. Twenty yards of roadway lie between the huts and the river, the bank of which is fringed with cocoa-nut palms. The day being fine the scene was pleasing and picturesque, for the village, in addition to being the largest and cleanest we had yet visited, had a pleasant background of cocoa-nut and bread-fruit trees, with tobacco plantations beyond.

The effect of the tide is felt right up to the village of Atoeka, and although at this date the banks of the river looked dry enough, I have no doubt that during the rains the whole country is under water for days at a time.

I inspected the dancing halls, the floors of which, built on piles ten feet above the ground, in each case covered an area of about seventy by twenty-five feet. They were carpeted with broad strips of bark, and on this, close to the wall, were built six or eight fireplaces of sand brought from the seashore. Round the walls a kind of dado had been fixed, about three feet from

A RETURN VISIT

the floor, consisting of a plank of wood, on which were carved representations of the human eye at intervals of about two feet. In the centre of the hall, between two posts, was fixed another short plank covered with more carved eyes. From what we could gather the whole idea of the dance is based on these carvings; the performers, who are generally women, advancing and retiring with the usual shuffling gait, and when they have approached sufficiently close poke at the eyes with their fingers, accompanying the action with a loud shout. Throughout the performance singing and tom-toming is carried on without intermission. We never had an opportunity of witnessing one of these ceremonial dances, as they invariably take place at night and there is an unwritten law that at night Papuans and Europeans shall each keep to their own camps. The meaning of these antics and the reason why the eye is considered the principal organ of the body and is always represented in carvings, we were unable to determine. It is the same with the decorated house utensils, paddles, and weapons, the eye is the only human organ depicted.

When four hundred huts had been inspected, the inhabitants thought it would be only showing proper politeness on their part to pay the same compliment to our tents and goods. Fortunately complete good temper was shown, or we should certainly have been swept into the river, and our tents with us. The pressure at length became so great that force had to be used to keep back the crowd, and in this we were assisted by a few of the more officious Papuans, who no doubt had an eye to some future reward; despite their efforts, however, no food could be prepared until dusk fell and the crowd dispersed to their homes.

KEEN TRADERS

These people were the keenest traders we had yet encountered, and as I had purchased a few stone axes during my walk round the village, the camp on the following morning was besieged by a mob of at least a hundred would-be sellers, each with his pile of goods and each noisily demonstrating the merits of his particular article of commerce. Before me were laid dozens of stone axes and clubs, spears, bows and arrows, fish, cocoa-nuts, fresh-water oysters, and rolls of string. Did my eyes wander for one instant over any article, it was at once taken up and its good points enumerated and displayed. Many quite useless things were bought, simply because the owners were so pitifully anxious to possess a knife, a strip of cloth, or a few beads. There was no bargaining, they gladly took whatever I offered, and raced away to find something else to dispose of.

When the time came to depart they did their best to persuade us to stop longer, and even became quite sulky when they saw that their efforts were in vain; they then changed their tactics and implored us to camp amongst them again on our return down the river.

Although there was some little difficulty in starting her, the motor-boat must have greatly impressed these people as she passed swiftly and without visible effort from end to end of the village; crowds raced after us along the banks, tumbling over one another in their efforts to keep up, until we slipped round the bend and out of sight.

After proceeding for an hour between thickly wooded lands varied by patches of tobacco plantations, we unexpectedly entered the Kamura proper, which here bifurcates, forming the Atoeka and Kamura mouths. Even then, after a week's drought, it was a splendid sheet of water; in the wet season, and in fact for most

THE KAMURA

months of the year, it is navigable for large launches as far up as the village of Ibo. As we swept out of the Atoeka into the broad expanse, Jangbir the Gurkha's first question was, why had we not taken to this river in the first place, then surely we should have reached the snows? Ah! why not? For two very good reasons, my friend;—firstly, because the very existence of this river was unknown to us; and secondly, because there was no launch available in which we might have examined the coast to find another waterway than the Mimika.

The bed of the Kamura, which is between two and three hundred yards wide, was exceptionally free from obstacles. Straight ahead to the north the whole range of mountains was visible, the foothills veiled in a blue haze, and the black frowning precipice stretching from east to west, topped by the snow caps of Idenburg and Carstensz with their icy pinnacles glittering in the rays of the sun. Much as we enjoyed the journey our minds were never for a moment free from vain regrets that we had been unable to prospect this river on our first arrival. How insignificant appeared the dirty jungle-fed and fever-stricken Mimika, when compared with the wide stretching expanse of cold clear water of the Kamura. On the greater river, with its open jungle and gravelly banks of sand, there can be no question that our work would have proceeded unhindered by a great portion of the sickness and fever with which we had had to contend. Regrets and speculation as to what might have been done were, however, a mere waste of time; we had not taken the river, and there the matter ended.

I had intended to camp at the point where the Wataikwa is joined by the Kamura, the junction already visited three months previously by Cramer when coming

A COLLISION

from the north. My object was to join up the compass survey of the river, and so close that portion of the map. Our good intentions, however, were unexpectedly frustrated, for when within a couple of miles of our destination we crashed full upon a sunken log. So violent and unexpected was the impact that everyone was thrown to the deck, the engines came to a dead stop, and the timbers of the poor old boat groaned as if in mortal agony. The Gurkha, Bahadur, who was look-out man at the time, and whose particular business it was to see that we did *not* collide with obstacles, was pitched headlong into the river, and before he could be seized was swept past the boat and down the river into deep water. Being an indifferent swimmer he would certainly have lost his life had not his companion Jangbir plunged in and, after a struggle in which I thought both would have been drowned, dragged him to another half-sunken log from whence both were finally rescued by the yawl.

In spite of every effort nothing would induce the engines to start afresh, though it was impossible to detect any obvious damage. After two hours of strenuous work a halt had to be called and the camp pitched in the neighbouring forest. It was not until after darkness had set in that the welcome pop-pop of the engine showed that she had once more awakened to life. As it was more than likely that the engine would give further trouble, the journey to the junction was given up, and next morning we started on our return voyage, this time following the eastern or Kamura branch of the river:

At full speed we passed between banks exactly similar to those of the western branch, the Atoeka, whilst both rivers were alike in the number of sharp

KAMURA VILLAGE

turns and doublings of their course. So we went along, the work of rapidly taking the angles with the prismatic compass and judging the distance by eye keeping me fully occupied, for it is by no means an easy task to take the necessary observations when one is moving at the rate of eight or ten miles an hour down a river continually doubling on itself. It must have been some hours after the start that we came suddenly upon a large village which we afterwards learnt went by the name of Kamura. The boat was quickly swung round, and the anchor dropped in mid-stream.

The surprise and excitement caused by our sudden approach from above was intense. One warning cry and the whole population was fleeing to the bush, then, realising who we were, they turned, the women entering their huts to bring out bamboos filled with chalk, which they cast in clouds into the air, the men placing bunches of leaves in their armlets as evidence of their peaceful intentions. These preliminaries accomplished, the whole body rushed with one accord into the river to meet us, commencing the usual dancing inseparable from a greeting in these parts, but which on this occasion was all the more curious owing to the fact that the majority of the women were in a complete state of nudity.

They were a wild-looking crew, of a much lower type than any we had previously encountered. The village was of the universal pattern, with about 200 huts, but there was a complete absence of bordering cocoanut or bread-fruit trees, nor was there any other sign of cultivation. Whilst the old men prevented the women from approaching too close to the boats, the younger ones tried their best to clamber on board, a privilege not allowed, as we neither liked their looks nor their manners, and they had therefore to be content, much to

A WILD-LOOKING CREW

their disappointment, with standing waist-deep in the water. In this position conversation was carried on with difficulty, as they made such a babel of noise that no definite remarks could be exchanged on either side. I gave them a few fish-hooks and beads, thinking that this might encourage them to bring some fruit if they had any, the only result being to create more excitement and to draw a still greater number of men into the river. They were of a lower type and of a more brutal countenance than any we had met before, and almost to a man were nude. They seemed to know little about us and our ways, so we soon weighed anchor, and bade them adieu.

Hardly had the engines started than four boat-loads of men at once set off in pursuit, but as the current carried us along at a fine pace they and the village were soon left behind. For two miles there was nothing to impede our progress. Round sharp bends we swept, the river often doubling upon itself and flowing between banks of a dense scrub-like jungle, making record time, till the engines again broke down and further tinkering was required.

Whilst we were busied in this task the four canoes which had followed us from Kamura village suddenly appeared upon the scene, and without more ado drew up alongside the yawl. Without recognising our existence, or with so much as a word, two men stepped out and began to remove the box of trade goods from which the hooks and beads had been taken, and which also contained several knives and a few axes. It was already half on to the man's shoulder when Bahadur (the Gurkhas are always quick to make up their minds), with a shout of rage which was enough to daunt the stoutest heart, drove the muzzle of the gun into the thief's ribs.



SUSPICIOUS MOVEMENTS

Savages of Kamura village wading out to the launch. The same men tried to board the boat later in the day.

AN ERRATIC MOTOR

Down the box clattered into the bottom of the boat; had it been red-hot it could not have been dropped quicker, and the now vociferous savages hastily withdrew a stone's-throw away to discuss the new turn affairs had taken. A plan of action was soon concocted, and they divided forces, half vanishing into the jungle and moving down-stream, whilst the others watched us from above. Threats to open fire upon them had no effect, and it was evident that they had little idea of the power of a gun.

Whilst this was going on strenuous efforts were being made to persuade the motor-engine to start afresh. Ten minutes of violent turning of the fly-wheel left her as lifeless as before, and then suddenly, without anything more being done, she suddenly started into life again. It was particularly lucky for the Papuans that this did occur, as though we had no wish to use our weapons unless absolutely compelled to do so, blood would certainly have been shed had they advanced a second time. As, however, the launch was now running well, we could afford to laugh at their disappointed looks as the boat set off at full speed down the river. On glancing back they were seen to be still in the same place, we hope satisfied at length that we could escape them when we chose. What became of the jungle party we never knew; at any rate no further trouble was experienced, as this was the last time we were to come in contact with this avaricious and degraded tribe.

Within an hour we had entered a glorious bay, five or six miles in length and one or two in width. Islands both large and small rose on either side from the still surface of the water, the channels between having a depth of eighteen feet or more. The bay as shown in the map is not quite as accurately defined as one could

A GLORIOUS BAY

wish, owing to the loss of the prismatic compass, which slipped from my hands into the river as we were leaving the mouth of the Kamura.

What an exquisite picture the bay presented, and one appreciated all the more on account of the scarcity of beautiful scenery in these parts, and the impossibility of obtaining an extensive view when in the enclosed and monotonous forest. Here lay islands and headlands, dark and sombre, but standing out distinct from one another as the sun caught the edges of their shores, their varied forms rising from the glassy pale-green waters of the lagoon, whose dark and sinuous creeks stretched into the jungle in all directions. Then to the south the blue ocean and the cloudless sky; to the north masses of cumulus cloud rising into the blue vault of heaven, with the purple line of the foothills of the central range lying below. Altogether a pleasant, peaceful scene.

We camped upon the sands just within the mouth of the bay, upon the site of an old fishing village and beneath a cluster of palms. From here the mouth of the elusive Wania River could be distinguished in the far north-eastern corner of the bay, but much as we longed to explore its waters, nothing could be accomplished with the motor engine working so erratically as it had been doing of late.

There was again an enforced halt of several hours at this place, the boat this time being left stranded on the fall of the tide. Our united efforts to push and heave her into deep water only resulted in our being covered from head to foot with a black and evil-smelling slime which, though exceedingly objectionable to us, proved to be the happy hunting-ground of innumerable fish. Shoals of gorgeous-coloured specimens collected

GORGEOUS-COLOURED FISH

n the shade of the boat, possibly mistaking it for a floating tree-trunk from which grubs and other kinds of food might be procured. Greedily they sucked up the grains of rice thrown overboard, and even sipped the floating petrol without any apparent distaste. Every imaginable colour and shape seemed to have here a representative—round fish and square fish, fish as flat as a piece of paper and as long and thin as pencils, spiky fish and smooth fish; give them all a hundred vivid hues and brilliant spots, stripes and blotches, and some idea of the sight may be obtained.

When once afloat we made for the Mimika at our best speed and, except for a few involuntary stops, arrived at Wakatimi without further mishap.

During the previous fortnight the weather had been perfect, very different from that experienced in the corresponding season in 1910, when rain fell in torrents daily. Both years, I fancy, were exceptional, for in the former year much forest land upon which great trees had been growing for centuries was carried away by the flood, and in the middle of March 1911 the jungle was showing visible signs of being parched from want of rain.

CHAPTER XXIV

Wania Bay—An unexpected bar—Our unfortunate motor boat—A lost propeller—A critical position—Salving the launch—A humorous comparison—The last voyage—A welcome sight—An unexpected reinforcement

ALL that now remained to be done in order to complete the map of the district was the exploration of the Wania River. I had already made four attempts, but from one cause or another had on each occasion been prevented from carrying out the work. This time I was determined to finish the matter, and as a breakdown of the motor boat seemed to be the only thing which could possibly occur to prevent our success, her engines were thoroughly overhauled and the smallest defects rectified. Everything promised well, and in the second week of March, Wollaston, Marshall, and I, together with seven men, packed the yawl with rations for a week, tied her astern, and started off in high spirits down the Mimika.

We made good time to the mouth, passed the bar in safety, and with the aid of a strong current, within three hours were off the mouth of the Wania Bay. To my intense surprise, a bar of sand stretched from shore to shore across the very channel where I had passed a week before, and where we had been unable to find bottom with the eighteen-foot pole. Strong south-westerly winds had been blowing since then, but it seemed almost incredible that in such a short time the coast line could have become so changed and the

AN UNEXPECTED BAR

deep entrance to the harbour completely closed by a bar of sand rising at least two feet above the surface of the water. It was only another example of how little dependence can be placed in harbours and entrances along this portion of the coast as havens of refuge.

Had the Kamura and Wania rivers been in flood, or had the rainfall been up to the average, this closing of the mouth could never have happened, as the volume of water descending from the mountains is in ordinary times sufficient to sweep away any obstruction.

There was still another possible way of entering the river, namely by the eastern mouth, three miles farther along the coast. Here again we were checkmated, as the wild surf breaking on the bar clearly showed that there was no possibility of forcing a passage for many hours to come and until the tide was full. As the weather was becoming rapidly worse and a lengthy wait in this position was out of the question, we decided to return and take shelter for the night in the mouth of the Mimika. By so doing one day would be lost, but as there were ample provisions in the boats one day more or less made little difference. On heading to the west it was at once noticed how much the wind and sea had risen, which made us all the more anxious to get quickly to a harbour of refuge and in a position safe from any storm. The engines, upon which we could never place much reliance, were on this occasion working perfectly, and there was every reason to believe that within three hours we should be safely berthed for the night. Progress was slow, but the voyage was full of joy for those of us who loved the sea, and whatever the conditions might be it was better to be afloat than on dry land—so we at that time thought.

A LOST PROPELLER

When opposite to and about a couple of miles off the mouth of the Atoeka, the band connecting the magneto with the fly-wheel of the engine slipped off, but as this was an almost hourly occurrence no special attention was paid to it, and nothing much was thought of the fact that the engines immediately began to race at an abnormal speed. These latter were slowed down, the strap replaced, and we composed ourselves again to enjoy the exhilarating sensation of being tossed about during the remainder of the journey. The engines were now running smoothly enough, but to our horror the boat made not an inch of progress. Instinctively we guessed what had happened. A quick glance, first at the revolving shaft and then over the stern of the boat, made it clear at once that the worst of all possible disasters had overtaken us—the propeller had worked loose from the shaft and had sunk to the bottom of the sea. Without a jar or a blow, without apparent cause or reason, the holding pin and nut had given way, and with them had gone the screw. When the launch was employed on convoy work on the river the screw had come in contact with sunken logs on so many occasions that, as a result, the propeller blades had been bent almost double, but being of good metal they had stood the re-straightening well; the present accident, however, showed that more serious damage had been done to the shaft than had been imagined, and that the threads of the screw must have been torn almost smooth.

The position we were now in was anything but pleasant. The two boats, one a crippled and leaky motor launch and the other a ship's yawl, containing ten men and a heavy load of stores, equipment and baggage, lay two miles off the land on an exposed

A CRITICAL POSITION

shore, and twelve miles from the nearest known refuge. Besides this, we were surrounded by foam-covered reefs, in the teeth of a rising storm, and in a sea full of sharks.

The yawl's pair of oars were quickly got out and she was put on to tow the launch, but so strong was the current that instead of making headway we steadily lost ground. The anchor therefore was dropped, and the yawl once more tied up in her old place astern. We had now no choice but to remain where we were and ride out the storm, trusting that the anchor would not drag, that we should escape being swamped, and—most likely thing of all—that the yawl's rope, which had already snapped once that day, would hold throughout the night. Were it to break again there would be little chance of any of the crew reaching land alive.

Throughout the afternoon the wind increased in violence, and when night fell we were in a most critical position; to partly compensate for this most of the crew were so ill that they cared little whether the boat floated or went to the bottom. Fortunately we were spared complete darkness, for the moon was at its full, but by her light we had distressing visions of the yawl being tossed hither and thither, and straining with horrid jerks at the rope which restrained her. She was, however, somewhat under the lee of the motor boat, and in that position partly sheltered from the full force of the waves. How the two boats tossed and rolled, twisted and turned! In spite of the strain the anchor held fast, and except for shipping a few bucketsful of water we remained dry, which was something to be thankful for. At midnight, when affairs seemed to be reaching a climax, and there was but a hair's-breadth between our sinking or swimming, the wind ceased to

SHALLOW SEAS

increase in violence, remained steady for half an hour, and then, to our intense relief, commenced to drop, and so continued till daybreak.

In these shallow seas, for though we were fully two miles from land there were not over two fathoms of water under the keel, the sea falls as rapidly as it gets up, and before the sun was well above the horizon had dropped almost sufficiently to allow the yawl to set out for the shore. As the force of the current was as strong as ever, any attempt to tow the motor boat was hopeless. It was therefore decided to abandon her for the present, and if she did not sink in the meantime to salve her later on. The goods were slowly and with difficulty transhipped to the yawl, and when she was loaded with the ten men in addition, there remained but little free-board above the level of the water.

The village of Nimé lay only six miles away, and though we at first set out in the direction of this place, the waves broke so continuously over the boat and there was such evident danger of our being swamped, that a course was soon shaped for the nearer but treacherous bay of Timoura, in the hope that some opening might be found through the foam-covered reef which closed its mouth. Fortune was again kind, and almost before we knew we were clear, a narrow channel opened before us and we had grounded upon a mudbank, tired out, soaked to the skin, but thankful enough to reach even such an inhospitable shore. The tide falling rapidly, we were compelled to remain here till midnight, when with the return of the water the boat floated once more, and an hour later shelter was obtained among the trees on the mainland.

There was no time to waste if the leaky launch was to be saved, so disembarking the stores as quickly

A HUMOROUS COMPARISON

as possible, we once more set forth and reached the launch at daybreak, to find her full of water but still floating; taking her in tow she was grounded on the shore at midday. Here she became so firmly wedged that another night had to be spent waist-deep in the water working to refloat her, only to find when once we had succeeded that, although she would still keep above water, her old timbers had opened so much that she was little better than a sieve.

Savages from the villages to the east and Nimé to the west had appeared at intervals, keen as ever on the chance of doing a bit of trade, but as soon as we suggested that they might lend a hand and do a bit of work they at once made themselves scarce. At length a dozen strangers from the east were engaged to paddle the launch to Nimé, and so well did these born watermen work that, with the aid of their long native paddles, they made the old boat travel nearly as fast as the yawl. There was a certain amount of humour in the sight of the modern motor boat, one of the latest products of civilisation, being propelled by primitive paddles wielded by men who belonged to the stone age.

That night we rested at Nimé. With the exception of half a dozen men and boys, the one thousand to twelve hundred people formerly living here had disappeared on one of the peculiar and temporary migrations which these people seem so fond of undertaking. Why they should all have moved at once, unless it was that they had got tired of a place and wanted a change, I cannot tell. Fish were just as plentiful at Nimé as before, and the sago swamps just as fruitful, but there must without doubt have been something more attractive inland or they would never have left their huts and

THE LAST VOYAGE

splendid dancing halls for so long to the mercy of the storms.

Two days later we were in the Mimika Bay, and the unfortunate journey was over; five hours had been taken on the outward and five days on the return voyage, and the Wania had defeated us at the last. Though we much regretted that the survey of this fine river was and had to remain incomplete, it was no good crying over spilt milk. We were safely out of an awkward predicament, and that without any loss of life, which was something to be thankful for.

This last day of the journey was a glorious one. I can picture the scene now, with the sea like glass and the sky free of cloud, and the two boats being paddled slowly forward by rows of garrulous and happy savages. We were not prepared to do any manual labour ourselves now that hired hands were available, and if the truth were told, we were unfit for it. The past fifteen months had left its mark on the survivors, and had brought them to a weaker state than was altogether pleasant.

We were a contented party nevertheless, and were really thankful that this was to be the last voyage of the expedition. As we lay back in the boat, filling our lungs with the fresh sea air, and wondering how long it would be before we should leave the land for good, a roving eye was attracted by the smallest possible spiral of cloud on the horizon. First one saw it and then another, until at length everyone, black and white, began to speculate as to what it meant. Not for a moment would the Papuans allow that it was the forerunner of a ship, and the wish being father to the thought, the Europeans and Gurkhas were just as firmly convinced that it was. Then it drifted and vanished,

A WELCOME SIGHT

and we had to accept the scoffs and superior smiles of the dusky savages with what equanimity we could ; not for long, however, for in a few minutes another small cloud formed in the same place, and our spirits and conviction rose with a bound. Argument waxed and waned, until within an hour all doubt had vanished. Above the horizon crept the black spot of a funnel, then the hull of a steamer appeared, slowly growing larger and more distinct, until we could make out the line of the *Zwaan* as she came to a stop two miles out at sea, and the roar of her chains as she anchored came like music to our ears.

Three months previously we had applied to the Dutch authorities in Java to request that transport might be despatched to the Mimika River to withdraw the expedition as soon after the 1st of April as was convenient. As it was now only the third week in March, the point we were eager to find out was whether the *Zwaan* was making one of her periodical visits to remove the sick, or whether she had arrived before the time appointed on the chance of our being ready to move.

Speculation was but a waste of time—we should know soon enough ; and as the prospect of being towed up the river to the base camp was preferable to a long and wearying struggle against the current, we lay to under the mangrove trees, chatting on the pleasant times to come, and watching through our glasses the preparations now being made to lower and take in tow the ship's boats.

One, two, three—six boats in addition to the launch. Hurrah ! then we were to be removed at once, and our journey to civilised lands was as good as begun. As they drew clear of the *Zwaan* a horrid doubt crept into

AN UNEXPECTED REINFORCEMENT

our minds, for the boats seemed to be uncommonly heavily laden, and the nearer they approached the more peculiar became their appearance. Dozens of khaki-clad men, different in appearance to the like of anything seen before sat in silent rows, with red fezzes on their heads and in a spick and span uniform.

What were these people doing here; why had they come, and who were they? I hailed the launch, and on going on board, full of curiosity, was introduced to Mr. Boden-Kloss of the Kuala Lumpur Museum. From him I learnt, for the first time, that he, together with thirty-eight Dyaks from Sarawak, and stores for six months, had been despatched by order of the Home Committee to join the expedition. This was the last thing in the world we had expected, and in our then condition the least welcome, for we had received no intimation of this reinforcement, and no news that such an event was contemplated. These Dyaks, the only men at all suitable for transport work in New Guinea, for whom we had been begging from the very start of the expedition were, without warning, sent out to join us fifteen months after our first landing, three months after we had sent our application to be withdrawn, and many months after the date originally determined for the closing of the expedition. Moreover, they had arrived just when the wettest and impossible season for travel was commencing, when all collections which we had contemplated making in the district had been completed and the specimens actually packed, and when the whole force was prepared for immediate departure. Parimau had been abandoned to the natives, and the camps allowed to fall into disrepair.

To postpone our departure for a further term of months would be profitless waste of time. This fact

LIMIT OF TIME FOR SERVICE

alone, that the principal members of the expedition had been in the country for a year and a quarter, was sufficient, in itself, to necessitate the withdrawal of the force. Eight months is the maximum period allowed by the Dutch authorities for continuous service on these expeditions in New Guinea, as this has been found by experience to be the utmost limit of time a man can stand the climate without serious injury to his health.

Our own past experiences had taught us that, for the vast majority of men imported from the East Indian Islands, a period of four months spent in continuous work is as much as can be counted on in a climate such as is to be found in the south-western districts of the island. Cramer, Wollaston, Marshall, and myself, four Gurkhas and three of the escort were the sole remaining members both of the original expedition landed fifteen months before and the four hundred imported during the first year. We were the only men whose stay had exceeded eight months' duration.

The recruiting and despatch of this force of Dyaks was one of the most unfortunate episodes of the expedition, and is only one more example of how hopeless it is to try to manage an expedition from a distant base, instead of leaving things to be arranged by men who, being on the spot, are the best judges of what measures should be taken to ensure success. Had the Dyaks been enlisted six or nine months earlier, when the unsuitability of the ordinary Malay for heavy work in New Guinea had been amply proved, their services would have been invaluable, although, even then, the men were too few in number to have enabled us to move any considerable distance into the mountains.

WAITING FOR THE TRANSPORTS

To land them without warning at Wakatimi during the final weeks of the expedition was inexcusable.

Mr. Kloss, grievous as the disappointment must have been, as soon as he had seen the camp and realised how matters stood, was entirely in accord with our views as to the necessity for immediate withdrawal; in the morning he returned to the *Zwaan*, taking with him his own men and every sick soldier or coolie for whom accommodation could be found.

We watched them depart with mixed feelings; our disappointment that we were not of the party was mitigated by the knowledge that our turn would soon come, for they would carry the news to Amboina of our anxiety to leave. Still more boxes were packed and stored ready for removal, and the finishing touches having been given to this work, we sat down to wait, with what patience we could, for the coming of the transports.

CHAPTER XXV

Completed work—Results of the expedition—Disappointed hopes—Relief ships—Anticipating trouble—Scenes of turmoil—Civilising influence—Dobo—Dispersal of the expedition—Dutch hospitality

IN those pleasant quiet evenings spent by the river, enjoying the good things left behind by Kloss, our minds free from the worries of transport and from the difficulties of surmounting the ever recurring natural obstructions, we had plenty of time to review the labours of the past year, to balance the pros and cons, to weigh the successes against the failures, and to question whether the collections might have been still further enriched or the survey extended.

The expedition was over and the work complete. All that man could do to form the collections and complete the survey had been done, and we were entitled to rest from our labours. With the one exception of the snows not having been reached, every other object for which we had set out had been attained, and although the time expended and the loss of life entailed had been in excess of what had been anticipated, yet the obstacles encountered had been greater than what we had been led to expect and for which provision had been made. On the whole we had little to reproach ourselves with, and much with which to be content.

Close at hand for the museums were packed 2200 skins of birds comprising 235 species, many of which were new to science; six cases of mammal skins; many tanks and bottles of reptiles; entomological specimens;

RESULTS OF THE EXPEDITION

quantities of ethnographical objects of great interest and value, and, what appealed to Marshall and myself still more, a map of 3000 square miles of a hitherto unknown land, complete in every detail, from the highest peaks of newly-discovered mountains to the sluggish rivers of the plains. Amongst other discoveries of geographical interest must not be forgotten the snow mountains of Idenburg, the castellated peaks of Leonard Darwin, and the greatest precipice in the world. In addition, new races of man had been encountered and studied, tribes hitherto unknown and still living in the stone age. But of more human interest than all these was the discovery of the Tapiro pygmies, a really remarkable find at this period of the world's history, and sufficient in itself to have warranted the despatch of the expedition.

In the attempt to reach the snows of Carstensz we had accomplished the longest cross-country journey ever attempted in Dutch New Guinea. Against these gains had to be placed the one failure to reach the snows. We could, however, console ourselves with the thought that few expeditions, and least of all those on pioneer journeys, succeed in attaining the full summit of their desires, and in our case we had the knowledge that, with the Mimika River as a line of communication, this particular feat was impossible. At the conclusion we had much to be thankful for, since at one period the outlook had been so dark and the prospects of an advance into the mountains so hopeless, that the withdrawal and reorganisation of the expedition had been seriously discussed. The number of lives sacrificed in obtaining these results had been large, but not much more so than is usual in expeditions of this kind and undertaken in a country approaching the un-

DISAPPOINTED HOPES

healthiness of New Guinea. Accidents and disease had taken a heavy toll, but—

No game was ever yet worth a rap
For a rational man to play,
Into which no accident, no mishap
Could possibly find its way.

We had gained much valuable experience which will be useful to others. As I write Wollaston has set forth again with a most perfectly equipped expedition, taking a new and greater river as his line of advance, and there can be little doubt, provided no unforeseen disaster overtakes him, that his ambition to reach Carstensz by this route will this time be realised.

Day followed day with monotonous regularity. From early dawn on to eleven o'clock our minds were full of pleasurable anticipation that the final day had arrived. From that hour to two o'clock our ears were strained to catch the sound of a launch's whistle as she entered the straight before the camp; and then, as the minutes passed by and there was no sign, our hopes would steadily dwindle till dusk came and the last chance had vanished for the day. With our nerves strung to the highest pitch of expectancy, it was inevitable that false alarms and reports should find currency in the camp on several occasions; these were generally caused by the warning cries of the Papuans, who understood quite well what we were expecting, and were likewise infected with the spirit of anticipation; or it might be by the sound of a falling tree in the forest, the breaking stems being taken over and over again for the reports of signal guns fired by an arriving ship. So realistic were some of the latter that on one occasion the Dutch, after hurriedly changing into their best clothes, manned the yawl and pulled to the mouth of

ANTICIPATING TROUBLE

the river, returning weary and depressed long after midnight with the news that their quest had been in vain.

Everything, however, comes to him who waits, and on 5th April such a shout went up from the village opposite as to leave no possible doubt that the relief ships were off the coast at last. Our old friend the *Zwaan* had arrived, closely followed by the gunboat *Mataram*, with orders that no time was to be lost in removing the expedition to Amboina.

Not since our first landing in the country had the camp so throbbed with animation; and though it was fully recognised that two whole days would be required to remove the men and stores, yet so intense was the anxiety to be off, and so great the fear that the ships might depart and leave the laggards to spend the remainder of their lives on these inhospitable shores, that the coolies could scarcely be dissuaded from placing their boxes on the pier and sitting upon them throughout the dark hours of the night.

During the two following days the work of transportation was carried on apace, every movement being eagerly watched by hundreds of wild-looking Papuans who had been drawn to the camp from neighbouring and distant villages by the prospect of obtaining a share of the stores, which they knew would be abandoned on our departure. To judge by the number of weapons carried, trouble over the division of the spoil was anticipated; and as each village in the district was represented, it is more than likely that many fights subsequently took place. No traces of pleasure or of sorrow were visible whereby an inkling might be gained as to their real feelings concerning our coming departure out of their midst. Their expressions and looks were a compound of suspicion and greed, suspicion that we might yet be tempted to change our hitherto exemplary be-

SCENES OF TURMOIL

haviour and work them some harm (for they never could fathom the reason of our stay), and greed engendered by the sight of the accumulated heaps of rubbish which they knew we would leave behind.

On 7th April I left by the last trip but one made by the launch, and by so doing missed the scene which took place when the last party stood on the pier and the camp was given over to the tender mercy of the Papuans.

In one moment the savage throng had burst through the palings surrounding the buildings, and proved themselves to be as wild and quarrelsome now as they had been when we first came amongst them. Whilst men and women fought with one another in the mad lust for loot, to seize upon and carry off what they most coveted, and whilst the armed and the defenceless struggled together to be the first to enter the huts, the last members of the expedition stepped into the boats and passed quietly down-stream, to the accompaniment of angry cries reverberating through the camp, unnoticed by those amongst whom they had lived so long; the bend of the river and the gathering dusk quickly hid from view both the village of Wakatimi and the camp upon which so much care and labour had been spent. Wild shrieks had greeted us on our first arrival in the country, and wild shrieks echoed down the still reaches of the river as the boats crept towards the sea. It is easy to imagine the scenes of riotous turmoil which that night swept over the village of Wakatimi and on the other side of the river, and to picture the ghostly forms of the savages as, full of greed and covetousness, they wandered with flickering torches through the deserted huts seeking for what might have been overlooked in the wild rush of the evening.

Around the *Mataram* and the *Zwaan* the waters were quiet and deserted; the canoes, which had been

CIVILISING INFLUENCE

lying off all day, had vanished silently and mysteriously as darkness fell, their crews possibly little realising that they would see us no more. Will any of the living generation of Mimika Papuans ever see a white man again? It is most unlikely; and all that their descendants will have to remind them of the strange race, who so unexpectedly came into their midst, will be the stories of our visit recorded in songs chorused round the hut-fires in the evenings, or the history attached to the axes, scraps of metal, beads, and precious odds and ends handed down from father to son as family heirlooms.

I am firmly convinced that our contact with the Parimau and up-river people must have had a good and civilising influence upon them. They certainly saw enough of us to learn some of the advantages of peace and industry, to learn what it meant to be able to trust the words of others, and to realise that honesty paid better than deceit. As a by-remark, it is worth noting that when these people were in danger of losing their most precious goods they actually brought their things over to our side of the river, leaving them near our huts without any protection whatever, knowing that under our care their possessions were safe. As to the results of our attempts to introduce a measure of civilisation amongst the coast tribes I am less sanguine, but at any rate we can feel certain that we did them no harm, and may have done good. At the very least, their hard lives have been temporarily made less laborious owing to the great influx of axes and tools, and this alone may make them aspire to a slightly higher plane of civilisation. Our departure from either place was quite enough to show the different degrees in which our influence had been felt, for the Parimau people, however shallow in reality may have been their sorrow, had had sufficient feeling to lavish demonstrative grief upon the

DISPERSAL OF THE EXPEDITION

Europeans and Gurkhas when the final greetings took place. With the Wakatimi people the reverse was the case.

Dobo, the principal and only important village in the Aru Islands, was reached on the following afternoon, and the dilapidated motor boat and much of the surplus stores handed over to the hospitable members of the Celebes Trading Company. The boat was soon sold to one of the many eager buyers, but though one year has passed since then, I understand that they are still looking for a purchaser, or anyone who will even remove the cases of pea-flour supplied for the use of the expedition when on the Equator!

On 10th April we entered the exquisite bay of the island of Banda, the richest of the spice islands, and in the olden days the jewel of the East, for the possession of which innumerable wars have been waged in bygone times. Now all its artificial glory has departed; the splendid palaces of the merchants are in decay or ruin, whilst in the port stagnation reigns in place of the former busy activity.

At Amboina the dispersal of the expedition began, the Javanese troops moving to their respective stations, and the coolies to their homes in the neighbouring islands. We had hoped that Cramer would have accompanied us to Java, but the early symptoms of beri-beri had set in; he being, therefore, the first, but by no means the last of the survivors to fall ill owing to the after-results of an over-strenuous journey. From a military point of view, no better officer could have been selected to command the escort, and from the expeditionary standpoint one could not have wished for a more tactful comrade. Those who have travelled under conditions of hardship in the more desolate countries of the earth will understand the many high

DISPERSAL OF THE EXPEDITION

qualities which must be possessed, even by one's closest friends, in order that affairs may progress in harmony and goodwill; how much more so must be the case when one's companions are those of another nationality.

Throughout the journey from Java to New Guinea, and from New Guinea back again to Amboina, we were the guests of the Dutch Government, whose generosity and hospitality so materially helped to start the expedition and bring it to a successful conclusion. It is impossible for individuals adequately to mark their appreciation of the spontaneous and friendly act of a foreign government, and we can but remember that such courtesies do much to increase the natural friendly relations and good feeling of the nations concerned.

The few remaining Gurkhas left us at Singapore, and before long reached their mountain homes in the Himalayas, preceded by their excellent Havildar, Mehesur Singh, rich in this world's goods, and with the knowledge that they had maintained the good name of their race, and that their work had materially contributed to enrich the collections and make possible the advance into the mountains.

The remaining members of the expedition received every possible assistance from the Board and representatives of the P. & O. Company, ever generous where scientific research is concerned, and reached England on 25th May, twenty months after having left her shores. There we separated, Wollaston to prepare for fresh travels and Marshall to take a temporary rest after his two climatically opposed journeys—one in the coldest area of the world's surface, and the other under the Equator.

May success attend them both!

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